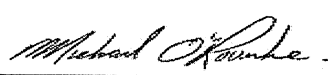


Schedule 1: Designer Information

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]			
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems </div> </div>			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5003 - THE OAKGROVE OPT 5-BED - WOB Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
<input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
October 5, 2018 Date		 Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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

SITE NAME: PINE VALLEY & TESTON BUILDERS: GOLD PARK HOMES										DATE: Oct-18 LO# 80242										WINTER NATURAL AIR CHANGE RATE 0.407 SUMMER NATURAL AIR CHANGE RATE 0.137										HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 13										CSA-F280-12 SB-12 PACKAGE A1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
ROOM USE										TYPE: 5003 - THE OAKGROVE										GFA: 3862										OPT 5-RED - WOB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
EXP. WALL CLG. HT.										ENB										WIC										BED-2										BED-3										BED-4										BATH										BED-5										LAUN										BATH-2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
FACTORS										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN										LOSS GAIN									

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESOPT 5-BED - WOB
TYPE: 5003 - THE OAKGROVE

DATE: Oct-18

GFA: 3862 LO# 80242

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 78,793 TOTAL HEAT GAIN 60,510
AIR FLOW RATE CFM 24.81 AIR FLOW RATE CFM 32.31AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000
DESIGN CFM = 1955
CFM @ .6" E.S.P.

EL296UH10XE60C

FAN SPEED 110

LOW 0

MEDLOW 1380

MEDIUM 1505

MEDIUM HIGH 1685

HIGH 1955

TEMPERATURE RISE 50 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	17	10	7
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.

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-5	BATH-2	MBR	BATH-2	DIN	LIV	KT/GT	KT/GT	KT/GT	KT/GT	KT/GT	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.84	0.77	0.94	2.13	1.82	1.68	1.68	2.25	0.87	1.84	0.87	1.86	2.02	2.73	2.73	2.73	2.73	2.73	4.20	3.39	3.81	3.81	3.81	3.81
CFM PER RUN HEAT	46	19	23	53	45	42	42	56	21	46	21	46	50	68	68	68	68	68	104	84	94	94	94	
RM GAIN MBH	2.06	0.52	0.25	2.11	2.34	2.19	2.67	3.10	0.41	2.06	0.41	1.90	2.25	2.94	2.94	2.94	2.94	2.94	0.64	1.52	1.23	1.23	1.23	
CFM PER RUN COOLING	67	17	8	68	76	71	86	100	13	67	13	61	73	95	95	95	95	95	21	49	40	40	40	
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	
ACTUAL DUCT LGH	48	26	36	48	45	54	42	63	45	41	49	26	39	36	27	31	38	45	35	40	30	22	42	
EQUIVALENT LENGTH	185	205	120	165	140	195	150	130	185	170	170	90	110	110	110	170	160	110	120	150	110	130	120	
TOTAL EFFECTIVE LENGTH	233	231	156	213	185	249	192	213	175	226	219	116	149	146	137	201	198	155	155	190	140	172	161	
ADJUSTED PRESSURE	0.07	0.07	0.11	0.08	0.09	0.07	0.08	0.08	0.1	0.08	0.08	0.15	0.12	0.11	0.12	0.08	0.08	0.1	0.1	0.09	0.12	0.09	0.1	
ROUND DUCT SIZE	5	4	4	5	6	5	6	6	4	5	4	4	5	5	6	6	6	5	6	5	6	6	5	
HEATING VELOCITY (ft/min)	338	218	264	389	229	308	214	286	241	338	241	528	367	499	347	347	499	499	530	617	690	479	690	
COOLING VELOCITY (ft/min)	492	195	92	499	388	521	438	510	149	492	149	700	536	698	484	484	484	698	107	360	294	204	294	
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10	3X10	3X10	4X10	4X10	
TRUNK	A	E	C	E	E	D	D	F	F	A	B	E	D	A	A	B	B	F	D	B	A	A	F	

RUN #	25	26	27	28	29	30	31	32	33	34
ROOM NAME	BAS	BAS	BAS	MBR	BED-3	BED-3	BED-4	LIV	ENS	LAUN
RM LOSS MBH	3.81	3.81	3.81	1.84	1.82	1.82	1.82	2.02	0.77	0.38
CFM PER RUN HEAT	94	94	94	46	45	45	42	50	19	9
RM GAIN MBH	1.23	1.23	1.23	2.06	2.34	2.34	2.19	2.25	0.52	1.03
CFM PER RUN COOLING	40	40	40	67	76	76	71	73	17	33
ADJUSTED PRESSURE	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	21	23	36	38	52	56	43	34	37	48
TOTAL EFFECTIVE LENGTH	201	123	166	198	197	211	233	134	232	238
ADJUSTED PRESSURE	0.08	0.13	0.1	0.09	0.09	0.08	0.07	0.13	0.07	0.07
ROUND DUCT SIZE	6	5	5	5	5	5	5	5	4	4
HEATING VELOCITY (ft/min)	690	690	690	338	330	330	308	367	218	103
COOLING VELOCITY (ft/min)	204	294	294	492	558	558	521	536	195	379
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	E	D	A	E	E	D	D	E	B

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	TRUNK O	TRUNK P	TRUNK Q	TRUNK R	TRUNK S	TRUNK T	TRUNK U	TRUNK V	TRUNK W	TRUNK X	TRUNK Y	TRUNK Z	DROP
TRUNK A	462	0.07	10.9	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK B	583	0.07	11.8	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK C	1068	0.07	14.9	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK D	424	0.07	10.5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK E	884	0.07	13.8	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK F	333	0.08	9.3	10	0	0	0	0	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	TRUNK L	0	0.00	0	X	8	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0
--------------	---	---	---	---	---	---	---	---	---------	---	------	---	---	---	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---	------	---

TYPE: 5003 - THE OAKGROVE
SITE NAME: PINE VALLEY & TESTON

LO # 80242
OPT 5-BED - WOB

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

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

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

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

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

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	201.4 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	201.4	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	46.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> 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	Sones
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
BATH-2	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3

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

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

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

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

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

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																																	
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																																	
LO#: 80242		Model: 5003 - THE OAKGROVE		Builder: GOLD PARK HOMES		Date: 10/5/2018																																																																											
Volume Calculation				Air Change & Delta T Data																																																																													
<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>1760</td> <td>10</td> <td>17600</td> </tr> <tr> <td>First</td> <td>1760</td> <td>11</td> <td>19360</td> </tr> <tr> <td>Second</td> <td>2125</td> <td>9</td> <td>19125</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>56,085.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>1588.2 m³</td> </tr> </tbody> </table>				Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1760	10	17600	First	1760	11	19360	Second	2125	9	19125	Third	0	9	0	Fourth	0	9	0	Total:			56,085.0 ft³	Total:			1588.2 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">WINTER NATURAL AIR CHANGE RATE</th> </tr> <tr> <th>WINTER NATURAL AIR CHANGE RATE</th> <th>0.407</th> <th colspan="2"></th> </tr> <tr> <th colspan="4" style="text-align: center;">SUMMER NATURAL AIR CHANGE RATE</th> </tr> <tr> <th>SUMMER NATURAL AIR CHANGE RATE</th> <th>0.137</th> <th colspan="2"></th> </tr> </thead> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> </thead> <tbody> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> <tr> <td></td> <td></td> <td></td> <td>76</td> </tr> <tr> <td></td> <td></td> <td></td> <td>13</td> </tr> </tbody> </table>						WINTER NATURAL AIR CHANGE RATE				WINTER NATURAL AIR CHANGE RATE	0.407			SUMMER NATURAL AIR CHANGE RATE				SUMMER NATURAL AIR CHANGE RATE	0.137			Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7				76				13
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																																														
Bsmt	1760	10	17600																																																																														
First	1760	11	19360																																																																														
Second	2125	9	19125																																																																														
Third	0	9	0																																																																														
Fourth	0	9	0																																																																														
Total:			56,085.0 ft³																																																																														
Total:			1588.2 m³																																																																														
WINTER NATURAL AIR CHANGE RATE																																																																																	
WINTER NATURAL AIR CHANGE RATE	0.407																																																																																
SUMMER NATURAL AIR CHANGE RATE																																																																																	
SUMMER NATURAL AIR CHANGE RATE	0.137																																																																																
Design Temperature Difference																																																																																	
	Tin °C	Tout °C	ΔT °C																																																																														
Winter DTDh	22	-20	42																																																																														
Summer DTDc	24	31	7																																																																														
			76																																																																														
			13																																																																														
6.2.6 Sensible Gain due to Air Leakage																																																																																	
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ $= 0.137 \times 441.15 \times 7^\circ\text{C} \times 1.2 = 514 \text{ W}$ $= 31030 \text{ Btu/h} = 1753 \text{ Btu/h}$																																																																																	
6.2.7 Sensible heat Gain due to Ventilation																																																																																	
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ $155 \text{ CFM} \times 76^\circ\text{F} \times 1.08 \times 0.25 = 3181 \text{ Btu/h}$																																																																																	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																																	
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HLlevel)</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">31,030</td> <td>10,427</td> <td>1.488</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>17,829</td> <td>0.522</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>18,118</td> <td>0.343</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)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HLlevel)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	31,030	10,427	1.488	2	0.3	17,829	0.522	3	0.2	18,118	0.343	4	0	0	0.000	5	0	0	0.000																																														
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HLlevel)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																																													
1	0.5	31,030	10,427	1.488																																																																													
2	0.3		17,829	0.522																																																																													
3	0.2		18,118	0.343																																																																													
4	0		0	0.000																																																																													
5	0		0	0.000																																																																													
<p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairve = 0</p>																																																																																	

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5003 - THE OAKGROVE	OPT 5-BED - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3862	LO# 80242	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):	56085.0	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:	7.0 ft
LENGTH: 61.0 ft	WIDTH: 40.0 ft	EXPOSED PERIMETER:	152.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	50.0 ft

2012 OBC - COMPLIANCE PACKAGE

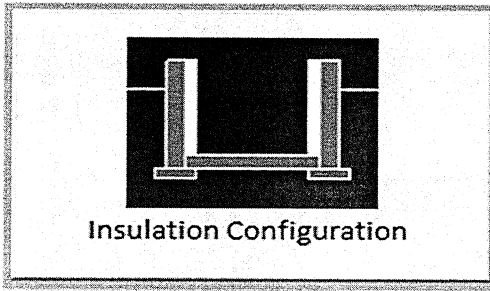
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20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

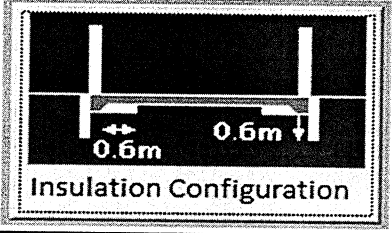
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.2	
Exposed Perimeter (m):	46.3	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.83	
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):		814

TYPE: 5003 - THE OAKGROVE
LO# 80242

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):	12.2	
Exposed Perimeter (m):	15.2	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		204

TYPE: 5003 - THE OAKGROVE
LO# 80242

OPT 5-BED - WOB

Air Infiltration Residential Load Calculator

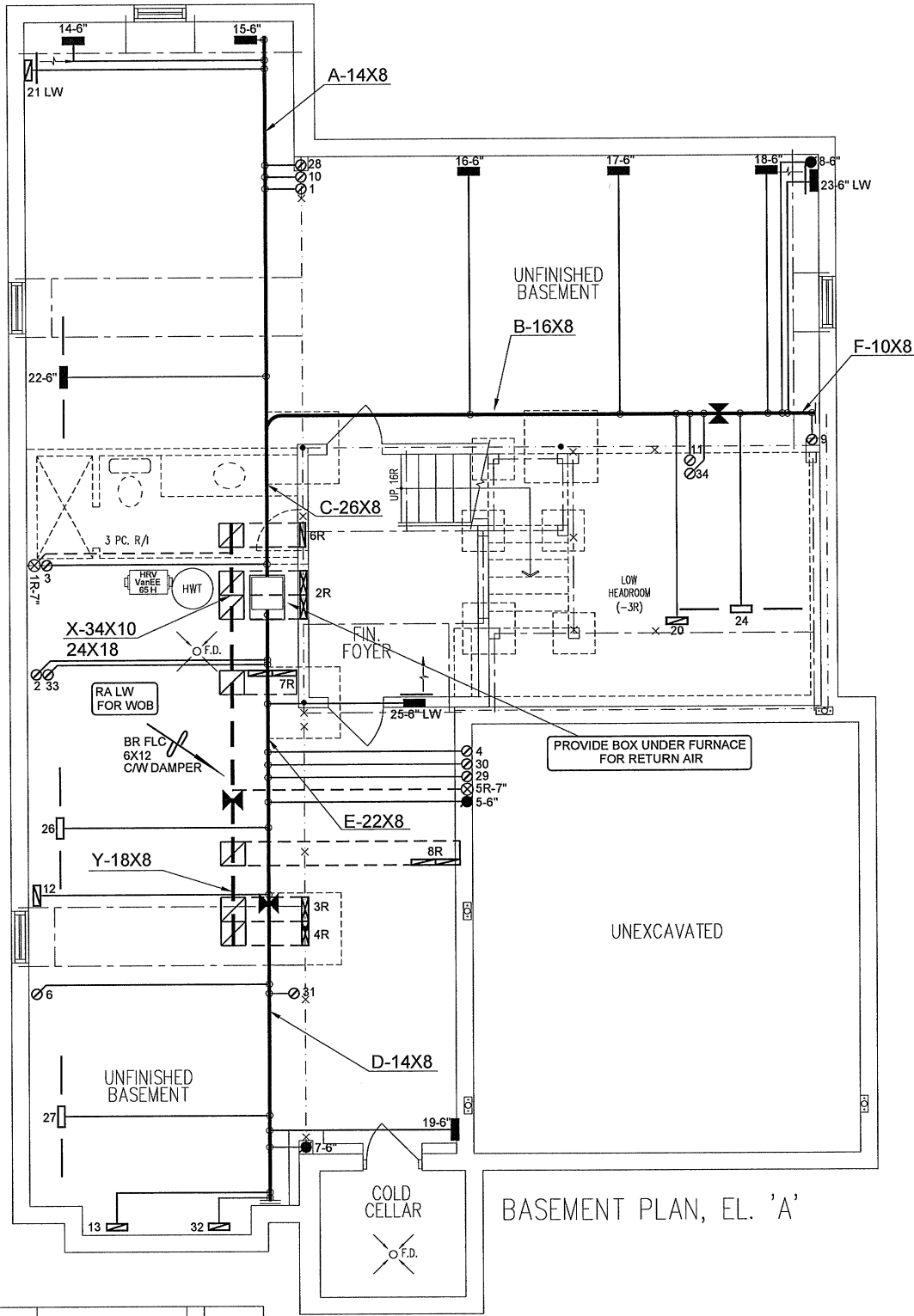
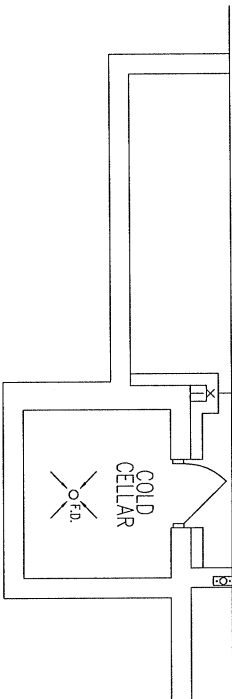
Supplemental tool for CAN/CSA-F280

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):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1588.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2117.1 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):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

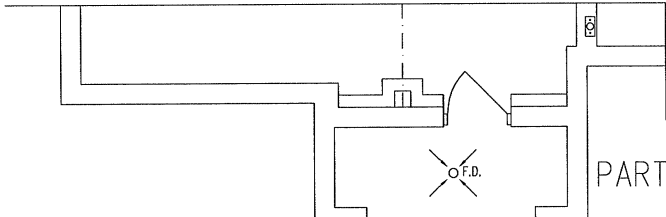
TYPE: 5003 - THE OAKGROVE
LO# 80242

OPT 5-BED - WOB

PART. BASEMENT PLAN, EL. 'B'



PART. BASEMENT PLAN, EL. 'C'



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.

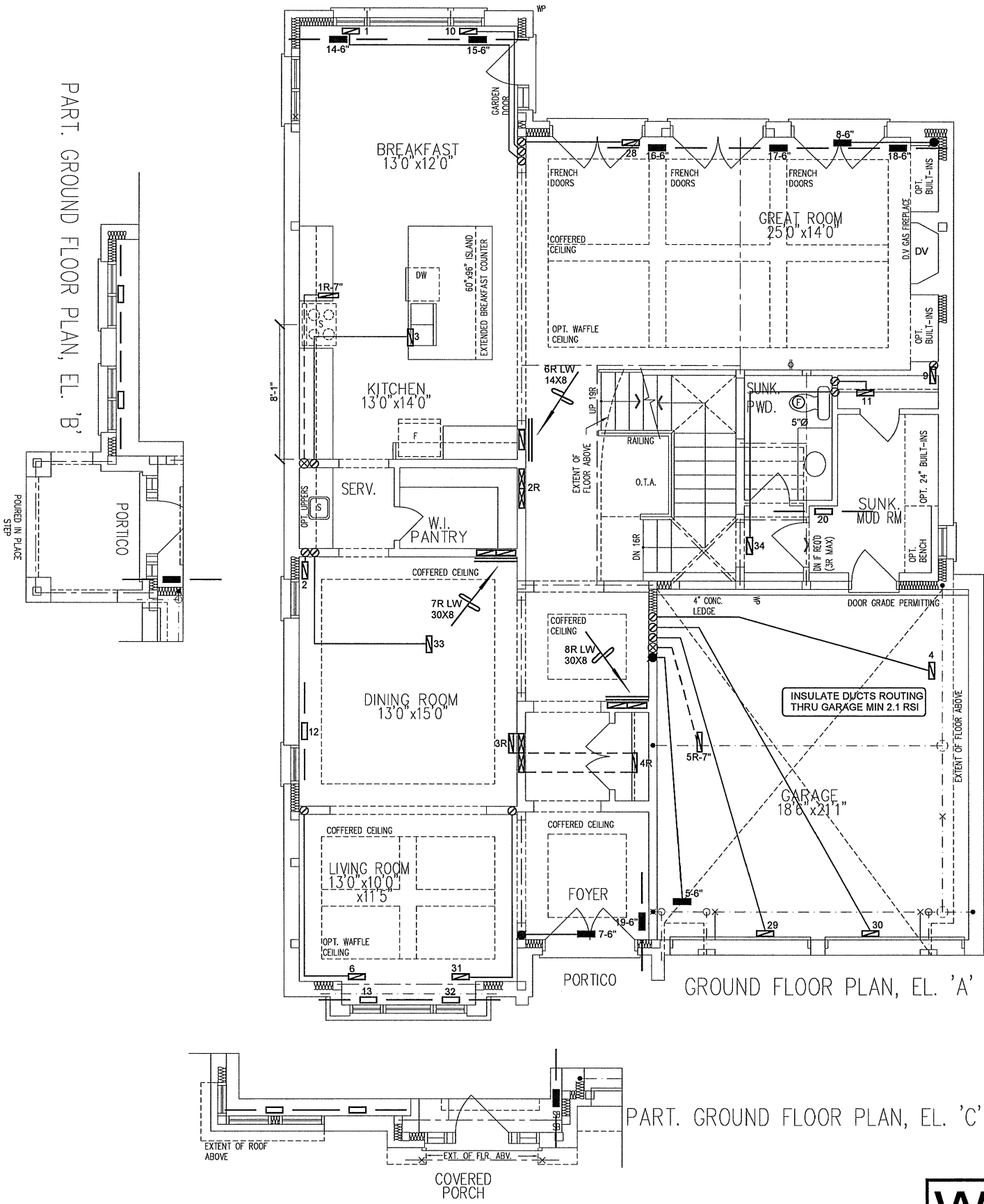
CSA-F280-12

WOB PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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		<div><div>HVACDESIGNS LTD.</div><div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div></div>		HEAT LOSS 81973 BTU/H		# OF RUNS S/A R/A FANS		Sheet Title	
GOLD PARK HOMES				UNIT DATA		3RD FLOOR		BASEMENT HEATING LAYOUT	
Project Name		Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.		MAKE		2ND FLOOR		Date	
PINE VALLEY & TESTON VAUGHAN, ONTARIO				LENNOX		17 5 6		OCT/2018	
OPT 5-BED - WOB				MODEL		1ST FLOOR		Scale	
THE OAKGROVE				EL296UH110XE60C		10 3 2		1/8" = 1'-0"	
5003				INPUT		BASEMENT		BCIN# 19669	
3862 sqft		110 MBTU/H		7 1 0		LO#		80242	
		OUTPUT 106 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					
		COOLING 5.0 TONS							
		FAN SPEED 1955 cfm @ 0.6" w.c.							



I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.

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

CSA-F280-12

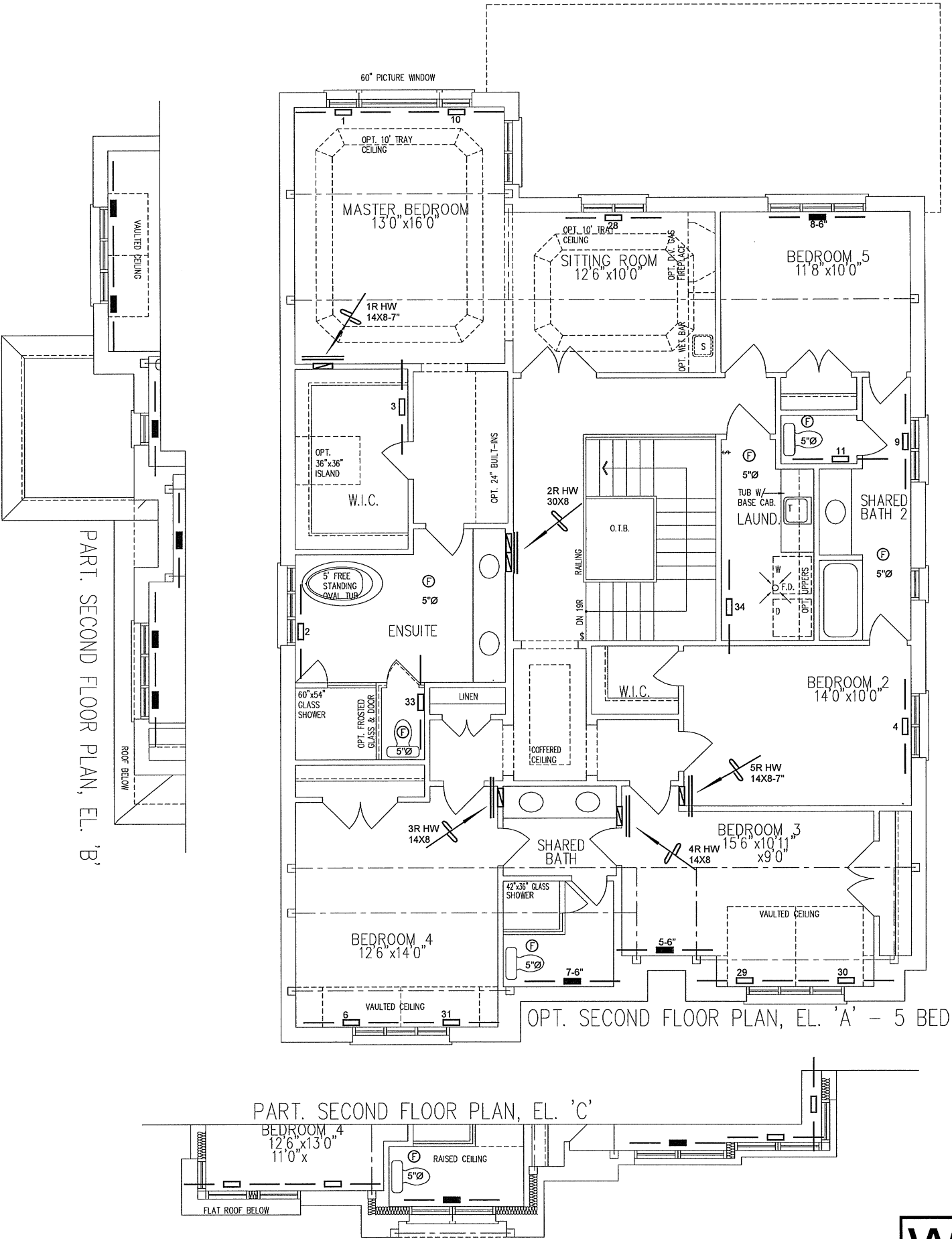
WOB

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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		<div><div>HVACDESIGNS LTD.</div><div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div><div>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.</div></div>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT 5-BED - WOB			BCIN# 19669	
THE OAKGROVE			LO#	80242
5003	3862 sqft			



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.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT 5-BED - WOB
THE OAKGROVE
5003

3862 sqft

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

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

Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

OCT/2018

Scale

1/8" = 1'-0"

BCIN# 19669

LO#

80242