


Schedule 1: Designer Information

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

A. Project Information				
Building number, street name			Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design activities				
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.		
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdsgns.ca	
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()		
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]				
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5003 - THE OAKGROVE 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 BUILDER: GOLD PARK HOMES										WOB		DATE: Oct-18 LO# 80241		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		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		STUDY		LAUN		ENS-2	
EXP. WALL CLG. HT.		50 10		13 9		12 9		10 9		32 9		32 9		9 9		26 9		7 9		7 9	
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
GRS.WALL AREA		500		117		108		90		288		288		81		234		63		63	
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
NORTH		19		404		304		17		362		272		19		404		304		19	
EAST		21.3		41.6		0		0		0		0		74		1575		3075		9	
SOUTH		21.3		24.9		0		0		0		0		0		0		0		9	
WEST		21.3		41.6		0		0		0		0		0		0		0		0	
SKYLT.		37.2		101.5		0		0		0		0		0		0		0		0	
DOORS		25.2		4.3		0		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		0.8		420		1874		316		94		419		71		108		482	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0.6		0		0		0		0		0		0		0		0	
EXPOSED CLG		1.3		0.6		424		544		249		182		234		107		168		216	
NO ATTIC EXPOSED CLG		2.7		1.3		0		0		0		0		0		0		0		0	
EXPOSED FLOOR		2.6		0.4		0		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		4121		1143		698		1442		3706		2332		1252		1732		657		287	
SUB TOTAL HT GAIN		0.20		0.35		0.20		0.35		0.20		0.35		0.20		0.35		0.20		0.35	
LEVEL FACTOR / MULTIPLIER		1427		396		242		499		1284		869		434		600		228		228	
AIR CHANGE HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
DUCT LOSS		0		0		0		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE		2		480		0		0		0		0		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		5548		652		0		240		1		240		0		0		0		0	
TOTAL HT LOSS BTU/H		5548		652		0		240		1		240		0		0		0		0	
TOTAL HT GAIN x 1.3 BTU/H		6186		1039		939		2136		5489		3380		1685		2332		885		393	

ROOM USE		DIN		LIV		KIT/GT						FOY		MUD						BAS	
EXP. WALL		16		31		94		0		0		0		31		0		0		162	
CLG. HT.		11		11		11		0		0		0		12		0		0		10	
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
GRS.WALL AREA		176		341		1034		0		0		0		372		0		0		1064	
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
NORTH		0		0		0		0		0		0		9		192		144		3	
EAST		21.3		41.6		0		0		0		0		0		0		0		0	
SOUTH		21.3		24.9		26		553		647		17		362		423		24		598	
WEST		21.3		41.6		0		0		0		0		0		0		0		0	
SKYLT.		37.2		101.5		0		0		0		0		198		4213		8227		6	
DOORS		25.2		4.3		0		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		0.8		150		669		113		276		1232		207		775		34659	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0.6		0		0		0		0		0		0		0		0	
EXPOSED CLG		1.3		0.6		0		0		0		0		0		0		0		0	
NO ATTIC EXPOSED CLG		2.7		1.3		0		0		0		0		12		33		15		0	
EXPOSED FLOOR		2.6		0.4		0		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		1223		2648		8970		9998		0		0		2227		0		698		2777	
SUB TOTAL HT GAIN		0.30		0.52		0.30		0.52		0.30		0.52		0.30		0.52		0.30		0.52	
LEVEL FACTOR / MULTIPLIER		638		1383		4683		656		31		0		1163		32		5070		5114	
AIR CHANGE HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
AIR CHANGE HEAT GAIN		0		0		0		0		0		0		0		0		0		0	
DUCT LOSS		0		0		0		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE		240		0		0		0		0		0		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		652		0		0		0		0		0		0		0		0		0	
TOTAL HT LOSS BTU/H		1861		4030		13654		652		0		0		3390		652		6010		20529	
TOTAL HT GAIN x 1.3 BTU/H		1900		4505		14638		1900		4505		14638		1521		6590		2054		2054	

	WOB		
	TYPE: 5003 - THE OAKGROVE	DATE: Oct-18	GFA: 3862 LO# 80241

*LENNOX		AFUE = 96 %	
EL296UH110XE60C		INPUT (BTU/H) = 110,000	
FAN SPEED		OUTPUT (BTU/H) = 106,000	
LOW	0	DESIGN CFM =	1955
MEDLOW	1380	CFM @ .6" E.S.P. =	
MEDIUM	1505		
MEDIUM HIGH	1685		
HIGH	1955	TEMPERATURE RISE	50 °F

TEMPERATURE RISE 50 °F

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RUN #	ROOM NAME	ENS	WIC	BED-2	BED-3	BATH	STUDY	LAUN	MBR	ENS-2	DIN	LIV	KIT/GT	KIT/GT	KIT/GT	KIT/GT	KIT/GT	KIT/GT	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.85	0.77	0.94	2.14	1.83	1.69	2.33	2.22	0.88	1.85	1.86	2.02	2.73	2.73	2.73	2.73	2.73	2.73	4.20	3.39	3.81	3.81	3.81	
CFM PER RUN HEAT	46	19	23	53	46	42	58	22	46	22	46	50	68	68	68	68	68	68	105	84	95	95	95	
RM GAIN MBH.	2.06	0.52	0.25	2.11	2.34	2.19	2.67	1.25	2.06	2.06	1.90	2.25	2.94	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	69	76	71	87	92	67	13	62	73	96	96	96	96	96	96	21	50	40	40	40	
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	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	26	39	36	36	27	31	38	45	35	40	45	22	57	
EQUIVALENT LENGTH	185	205	120	165	140	195	150	130	185	170	90	110	110	110	110	170	160	110	120	150	140	150	130	
TOTAL EFFECTIVE LENGTH	233	231	156	213	165	249	192	175	226	219	116	149	146	137	132	201	198	155	190	185	172	187	161	
ADJUSTED PRESSURE	0.07	0.07	0.11	0.08	0.09	0.07	0.08	0.08	0.08	0.08	0.15	0.12	0.11	0.11	0.12	0.08	0.08	0.1	0.1	0.09	0.09	0.09	0.1	
ROUND DUCT SIZE	5	4	4	5	6	5	6	4	5	4	4	5	5	5	6	6	6	6	6	5	6	6	5	
HEATING VELOCITY (ft/min)	338	218	264	389	235	308	214	296	338	252	528	367	499	347	347	347	347	347	535	617	484	484	698	
COOLING VELOCITY (ft/min)	492	195	92	507	398	521	444	469	492	149	711	536	705	489	489	489	489	489	107	367	204	204	294	
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3D10	4X10	3X10	3X10	3X10	3E10	3D10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	
TRUNK	A	E	C	E	E	D	B	B	A	B	E	D	A	A	A	B	R	R	D	3X10	A	R	4X10	

RUN #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BAS	BAS	MBR	BED-3	BED-3	BED-4	LIV	ENS
RM LOSS MBH.	3.81	3.81	3.81	1.85	1.83	1.83	1.69	2.02	0.77
CFM PER RUN HEAT	95	95	95	46	46	46	42	50	19
RM GAIN MBH.	1.23	1.23	1.23	2.06	2.34	2.34	2.19	2.25	0.52
CFM PER RUN COOLING	40	40	67	76	76	76	71	73	17
ADJUSTED PRESSURE	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	21	23	36	38	52	56	43	34	37
EQUIVALENT LENGTH	180	100	130	160	145	155	190	100	195
TOTAL EFFECTIVE LENGTH	201	123	166	198	197	211	233	134	232
ADJUSTED PRESSURE	0.08	0.13	0.1	0.09	0.09	0.08	0.07	0.13	0.07
ROUND DUCT SIZE	6	5	5	5	5	5	5	5	4
HEATING VELOCITY (ft/min)	484	698	698	338	338	338	308	367	218
COOLING VELOCITY (ft/min)	204	294	294	492	558	558	521	536	195
OUTLET GRILL SIZE	4X10	3X10	3X10	3A	3X10	3X10	3X10	3X10	3X10
TRUNK	E	E	D	A	E	E	D	D	E

SUPPLY AIR TRUNK SIZE					RETURN AIR TRUNK SIZE				
TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A 464	0.07	10.9	14	8					
TRUNK B 580	0.08	11.4	16	8	TRUNK G	0.00	0	0	8
TRUNK C 1067	0.07	14.9	26	8	TRUNK H	0.00	0	0	8
TRUNK D 426	0.07	10.5	14	8	TRUNK I	0.00	0	0	8
TRUNK E 891	0.07	13.9	22	8	TRUNK J	0.00	0	0	8
TRUNK F 891	0.07	13.9	22	8	TRUNK K	0.00	0	0	8
					TRUNK L	0.00	0	0	8
					TRUNK M	0.00	0	0	8
					TRUNK N	0.00	0	0	8
					TRUNK O	0.06	0	0	8
					TRUNK P	0.06	0	0	8
					TRUNK Q	0.06	0	0	8
					TRUNK R	0.06	0	0	8
					TRUNK S	0.06	0	0	8
					TRUNK T	0.06	0	0	8

[illegible]

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

LO # 80241
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	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	7 @ 10.6 cfm	74.2 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	79.5	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
ENS-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#: 80241		Model: 5003 - THE OAKGROVE		Builder: GOLD PARK HOMES		Date: 10/5/2018			
Volume Calculation				Air Change & Delta T Data					
House Volume									
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						
5.2.3.1 Heat Loss due to Air Leakage									
$HL_{airb} = LR_{airb} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$									
0.407	x	441.15	x	42 °C	x	1.2	=	9094 W	
								=	31030 Btu/h
5.2.3.2 Heat Loss due to Mechanical Ventilation									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$									
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)									
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl})\}$									
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvl})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLclvl)					
1	0.5	31,030	10,427	1.488					
2	0.3		17,829	0.522					
3	0.2		17,917	0.346					
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 HLairrv = 0</p>									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5003 - THE OAKGROVE	WOB	BUILDER: GOLD PARK HOMES
SFQT: 3862	LO# 80241	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:	5
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	-

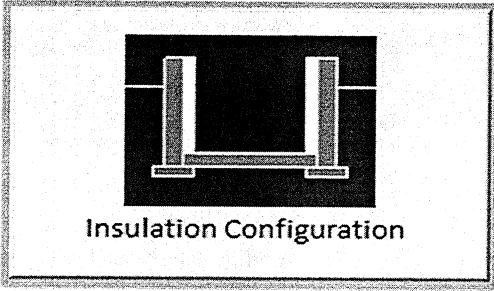
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

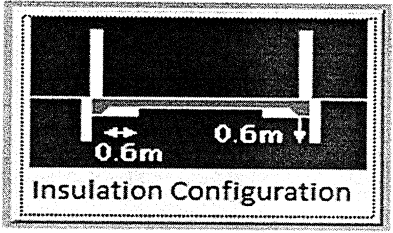
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.2	
Exposed 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# 80241

WOB

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	1.5	 Insulation Configuration
Width (m):	12.2	
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# 80241

WOB

Air Infiltration Residential Load Calculator

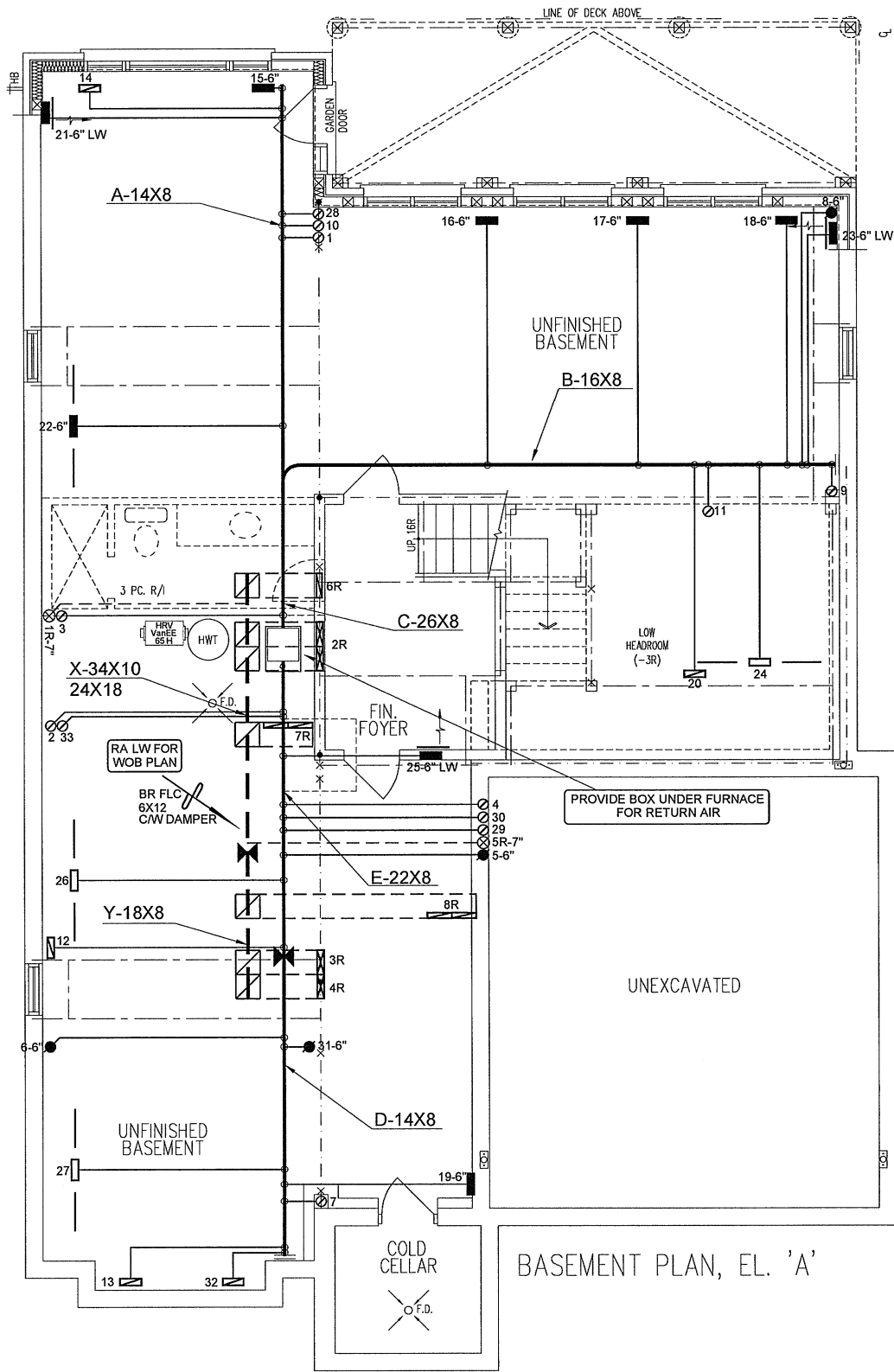
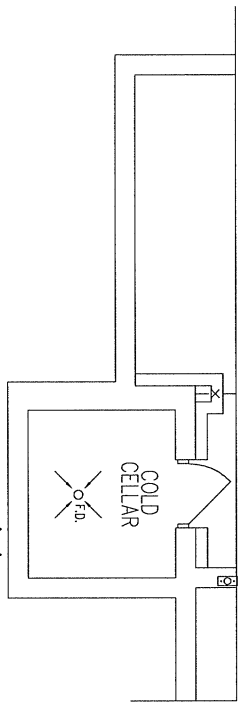
Supplemental tool for CAN/CSA-F280

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# 80241

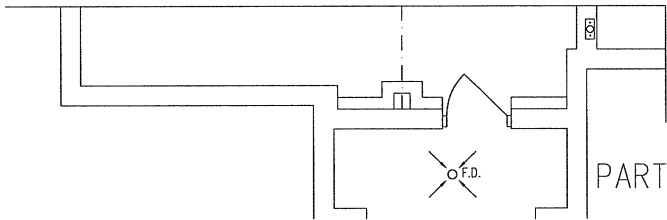
WOB

PART. BASEMENT PLAN, EL. 'B'



BASEMENT PLAN, EL. 'A'

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

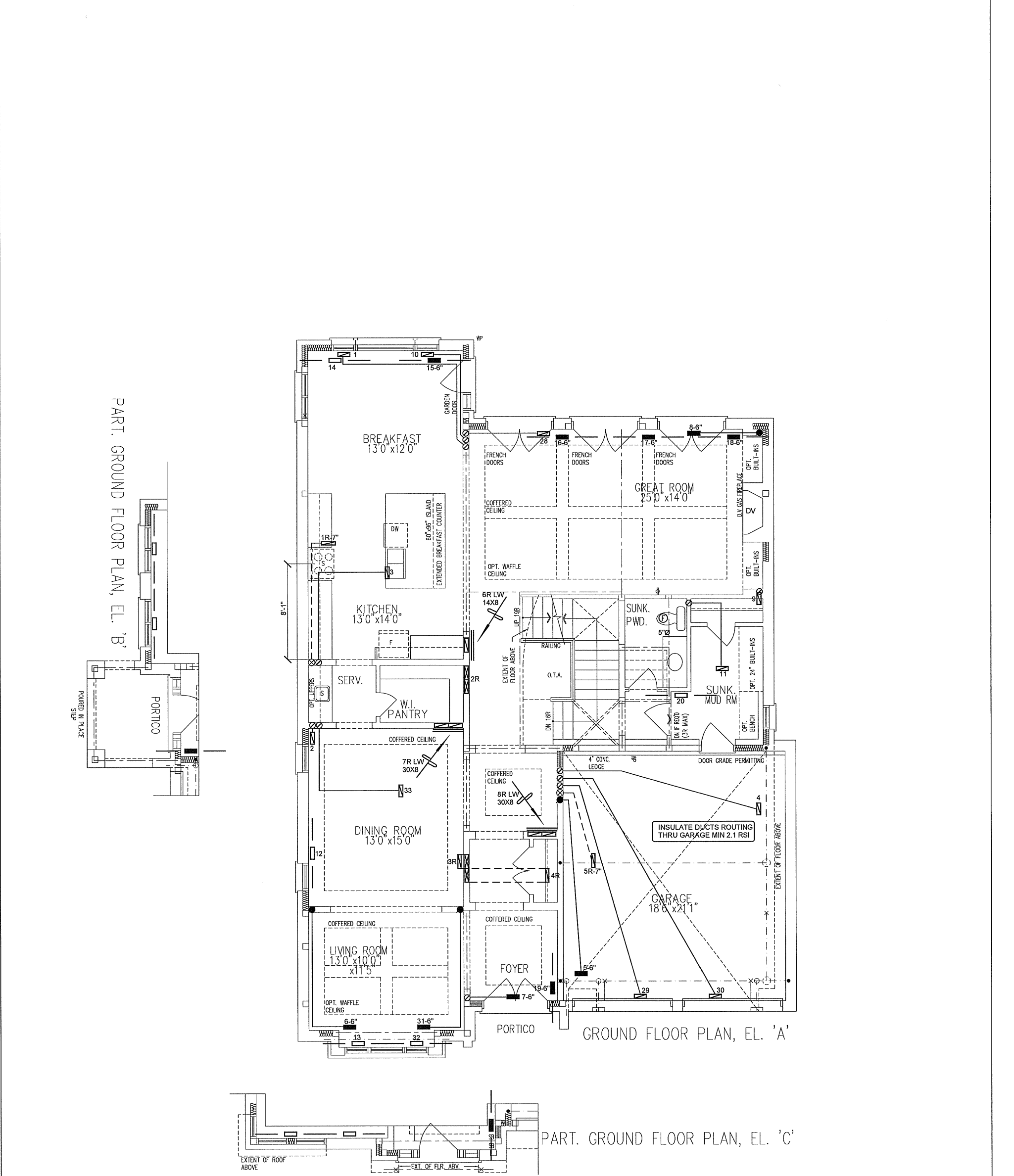
WOB

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.	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		<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 81774 BTU/H UNIT DATA		# OF RUNS		S/A		R/A		FANS		Sheet Title									
GOLD PARK HOMES				MAKE LENNOX		MODEL EL296UH110XE60C		INPUT 110		MBTU/H		OUTPUT 106		MBTU/H		3RD FLOOR		S/A		R/A		FANS	
Project Name		PINE VALLEY & TESTON VAUGHAN, ONTARIO		COOLING 5.0		TONS		FAN SPEED 1955		cfm @ 0.6" w.c.		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		2ND FLOOR		16		5		4		Date OCT/2018	
THE OAKGROVE - WOB 5003				3862 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.		BCIN# 19669		LO#		80241											



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

CSA-F280-12

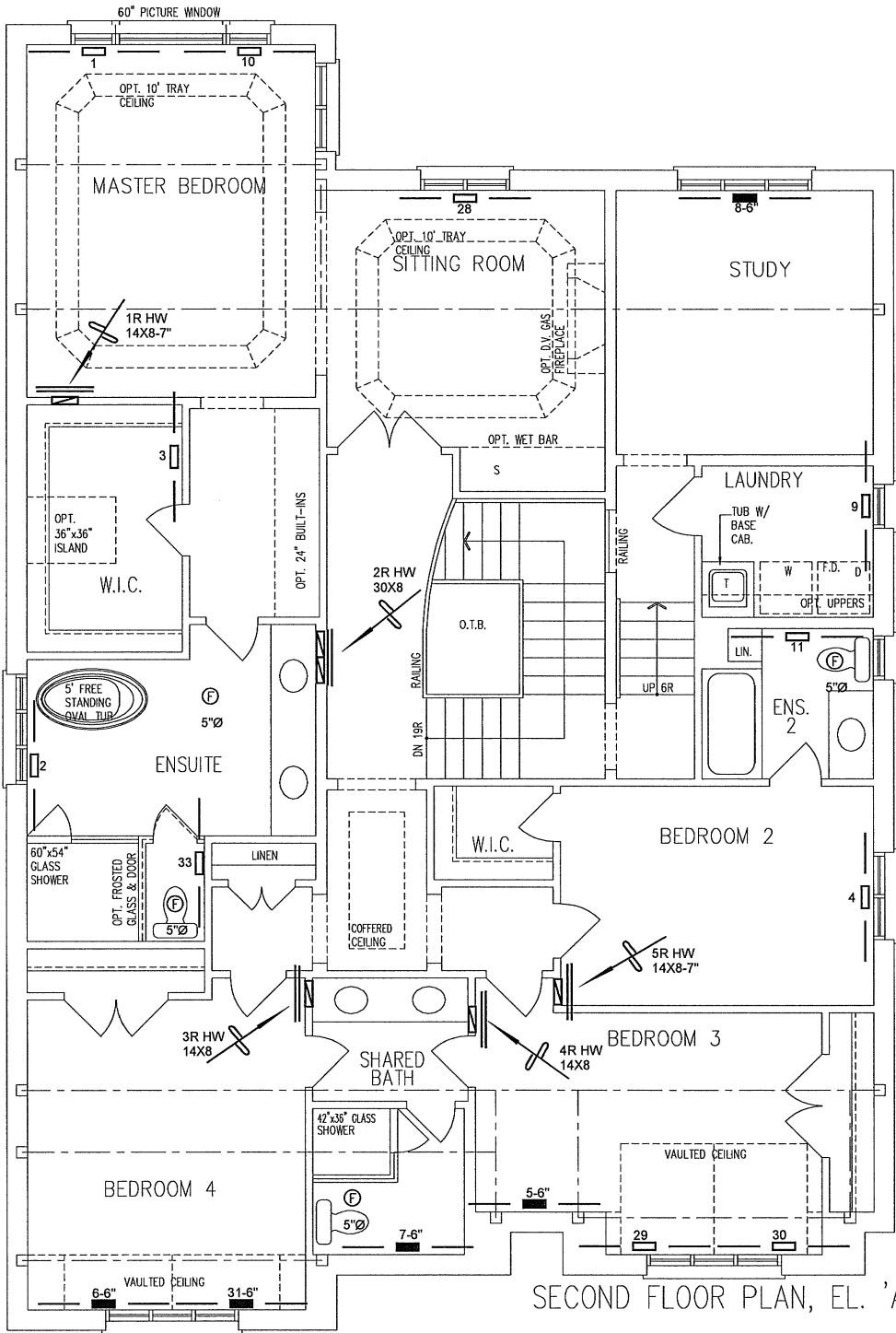
WOB PACKAGE A1

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

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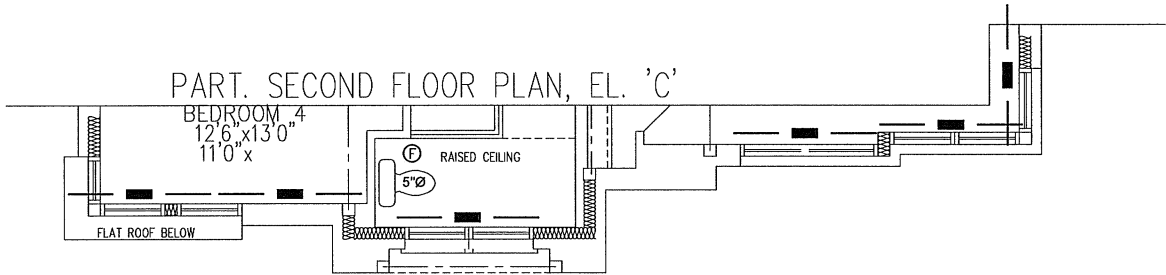
Client		<div></div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div> <div>Installation to comply with the latest Ontario Building Code. 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>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE OAKGROVE - WOB 5003 3862 sqft			BCIN# 19669	
			LO#	80241

PART. SECOND FLOOR PLAN, EL. 'B'



SECOND FLOOR PLAN, EL. 'A'

PART. SECOND FLOOR PLAN, EL. 'C'



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

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

CSA-F280-12

WOB

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE OAKGROVE - WOB 5003			BCIN# 19669	
3862 sqft			LO#	80241