

Schedule 1: Designer Information

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

A. Project Information					
Building number, street name				Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description			
B. Individual who reviews and takes responsibility for design activities					
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.			
Street address 375 FINLEY AVE			Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdsgns.ca		
Telephone number (905) 619-2300		Fax number (905) 619-2375	Cell number ()		
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]					
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems					
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12			Model: 5009 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 26, 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.

SITE NAME: PINE VALLEY & TESTON										TYPE: 5009		GFA: 3751		DATE: Jun-20		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F.		CSA-F280-13			
BUILDER: GOLD PARK HOMES										ENS		BED-2		BED-3		BED-4		ENS-2		ENS-3		ENS-4	
ROOM USE										30		33		32		14		11		6		8	
EXP. WALL CLG. HT.										9		9		9		9		9		9		9	
FACTORS										270		297		288		126		99		54		72	
GRS.WALL AREA										LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
GLAZING										0		0		0		0		0		0		0	
NORTH										0		0		0		0		0		0		0	
EAST										0		0		63		1341		2418		0		0	
SOUTH										0		0		0		0		19		404		439	
WEST										0		0		0		0		0		0		0	
SKYLT.										0		0		0		0		0		0		0	
DOORS										0		0		0		0		0		0		0	
NET EXPOSED WALL										0		0		0		0		0		0		0	
NET EXPOSED BMT WALL ABOVE GR										0		0		0		0		0		0		0	
EXPOSED CLG										0		0		0		0		0		0		0	
NO ATTIC EXPOSED CLG										0		0		0		0		0		0		0	
EXPOSED FLOOR										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										2081		2852		2907		1457		881		436		511	
SUB TOTAL HT GAIN										0		0		0		0		0		0		0	
LEVEL FACTOR / MULTIPLIER										0.20		0.20		0.20		0.20		0.20		0.20		0.20	
AIR CHANGE HEAT LOSS										0.39		0.39		0.39		0.39		0.39		0.39		0.39	
AIR CHANGE HEAT GAIN										1504		1113		1134		568		344		170		199	
DUCT LOSS										0		396		0		0		122		0		0	
DUCT GAIN										447		189		0		0		30		0		0	
HEAT GAIN PEOPLE										0		240		1		240		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS										765		765		765		765		0		0		0	
TOTAL HT LOSS BTU/H										2893		4361		4041		2025		1347		606		710	
TOTAL HT GAIN x 1.3 BTU/H										2155		2709		5498		2622		427		324		340	

ROOM USE										GRT/BF		KIT		LIV/DIN		LAUND		WIR		FOY		MUD		BAS			
EXP. WALL CLG. HT.										78		21		41		0		0		19		43		7		200	
FACTORS										11		11		11		9		11		11		11		10			
GRS.WALL AREA										858		231		451		0		209		473		77		1400			
GLAZING										LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN					
NORTH										0		0		0		0		0		0		0		0			
EAST										0		0		0		0		0		0		0		0			
SOUTH										0		10		34		0		0		0		0		0			
WEST										197		0		0		0		0		0		0		0			
SKYLT.										4192		0		0		0		0		0		0		0			
DOORS										0		0		0		0		0		0		0		0			
NET EXPOSED WALL										0		0		0		0		0		0		0		0			
NET EXPOSED BMT WALL ABOVE GR										0		0		0		0		0		0		0		0			
EXPOSED CLG										0		0		0		0		0		0		0		0			
NO ATTIC EXPOSED CLG										0		0		0		0		0		0		0		0			
EXPOSED FLOOR										0		0		0		0		0		0		0		0			
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										7142		1199		3795		284		933		4213		759		9886			
SUB TOTAL HT GAIN										8059		397		0.30		0.20		0.30		3233		128		887			
LEVEL FACTOR / MULTIPLIER										0.30		0.50		0.30		0.20		0.30		0.50		0.30		0.50			
AIR CHANGE HEAT LOSS										3536		594		1879		111		462		2086		376		14889			
AIR CHANGE HEAT GAIN										587		29		278		7		11		236		9		65			
DUCT LOSS										0		0		0		40		0		0		0		0			
DUCT GAIN										0		0		0		88		0		0		0		0			
HEAT GAIN PEOPLE										0		0		0		0		0		0		0		0			
HEAT GAIN APPLIANCES/LIGHTS										765		765		765		765		0		0		0		0			
TOTAL HT LOSS BTU/H										10678		1793		5675		435		1395		6300		1135		24775			
TOTAL HT GAIN x 1.3 BTU/H										12235		1549		6308		1252		219		4509		178		2232			

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

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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

TYPE: 5009

DATE: Jun-20

GFA: 3751 LO# 86418

1575		1575	
HEATING CFM	COOLING CFM	HEATING CFM	COOLING CFM
TOTAL HEAT LOSS	TOTAL HEAT GAIN	48,951	48,951
AIR FLOW RATE CFM	AIR FLOW RATE CFM	32.18	32.18

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	
RUN NAME			MBR		ENS		ENS		BED-2		BED-3		BED-4		ENS-2		BED-2		ENS-3		MBR		ENS-4		GRT/BF		GRT/BF		KIT		GRT/BF		LIV/DIN		LAUND		WIR		FOY		MUD		BAS		BAS		BAS			
ROOM NAME			1.97		1.45		1.45		2.18		2.02		2.03		1.35		2.18		0.61		1.97		0.71		2.14		2.14		1.79		2.14		1.89		0.43		1.39		3.15		1.14		4.13		4.13		4.13			
RM LOSS MBH			42		31		31		46		43		43		29		46		13		42		15		45		45		38		45		40		9		30		67		24		88		88		88			
CFM PER RUN HEAT			2.13		1.08		1.08		1.35		2.75		2.62		0.43		1.35		0.32		2.13		0.34		2.45		2.45		2.45		2.10		1.25		0.22		2.25		0.18		0.37		0.37		0.37		0.37			
RM GAIN MBH			69		35		35		44		88		84		14		44		10		69		11		79		50		79		68		40		7		73		6		12		12		12		12			
CFM PER RUN COOLING			0.17		0.17		0.17		0.16		0.16		0.16		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.17		0.16		0.16		0.16					
ADJUSTED PRESSURE			71		54		34		29		35		23		57		54		15		87		22		55		43		20		49		17		50		60		37		55		33		37					
ACTUAL DUCT LGH			160		160		160		190		120		180		190		190		180		150		200		130		160		190		130		90		180		170		150		130		140		170		150			
EQUIVALENT LENGTH			231		214		194		219		155		203		247		204		195		237		222		185		203		210		179		107		230		170		187		205		180		183		203			
TOTAL EFFECTIVE LENGTH			0.07		0.08		0.09		0.08		0.1		0.08		0.07		0.08		0.09		0.07		0.08		0.09		0.08		0.08		0.1		0.16		0.07		0.1		0.09		0.08		0.09		0.08		0.09			
ADJUSTED PRESSURE			6		4		4		5		6		6		4		5		4		6		6		6		5		5		5		5		4		5		4		6		6		6		6			
ROUND DUCT SIZE			214		356		356		338		219		219		333		338		149		214		172		229		229		279		330		294		66		344		492		275		449		449		449			
HEATING VELOCITY (ft/min)			352		402		402		323		449		428		161		323		115		352		126		403		403		367		580		499		294		80		536		69		61		61					
COOLING VELOCITY (ft/min)			4X10		3X10		3X10		3X10		4X10		4X10		3X10		3X10		3X10		4X10		3X10		4X10		4X10		3X10		3X10		3X10		3X10		3X10		3X10		4X10		4X10		4X10					
OUTLET GRILL SIZE			A		C		C		E		D		C		E		E		E		A		C		C		B		B		E		E		B		D		A		A		B		B					
TRUNK			A		C		C		E		D		C		E		E		E		A		C		C		B		B		E		E		B		D		A		A		B		B					

	25	26	27	28	29	30	31	32	33
RUN #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BAS	MBR	BED-3	GRT/BF	GRT/BF	LIV/DIN	LIV/DIN	FOY
RM LOSS MBH.	4.13	4.13	1.97	2.02	2.14	2.14	1.89	1.89	3.15
CFM PER RUN HEAT	88	88	42	43	45	45	40	40	67
RM GAIN MBH.	0.37	0.37	2.13	2.75	2.45	2.45	2.10	2.10	2.25
CFM PER RUN COOLING	12	12	69	88	79	79	68	68	73
ADJUSTED PRESSURE	0.16	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	52	25	62	44	58	63	25	31	31
EQUIVALENT LENGTH	140	100	150	160	160	140	110	120	150
TOTAL EFFECTIVE LENGTH	192	212	204	203	218	203	135	151	181
ADJUSTED PRESSURE	0.08	0.13	0.08	0.08	0.08	0.08	0.13	0.11	0.1
ROUND DUCT SIZE	6	6	6	6	6	6	5	5	5
HEATING VELOCITY (ft/min)	449	449	214	219	229	229	294	294	492
COOLING VELOCITY (ft/min)	61	61	352	449	403	403	499	499	536
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10
TRUNK	B	F	C	D	A	A	D	D	D

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK		STATIC PRESS.		ROUND DUCT		RECT DUCT		VELOCITY (ft/min)		TRUNK CFM		STATIC PRESS.		ROUND DUCT		RECT DUCT		VELOCITY (ft/min)	
TRUNK A	286	0.07	9.1	10				8	515	0	TRUNK G	0	0.00	0				8	0
TRUNK B	758	0.07	13.1	20				8	882	0	TRUNK H	0	0.00	0				8	0
TRUNK C	1003	0.07	14.5	24				8	752	0	TRUNK I	0	0.00	0				8	0
TRUNK D	300	0.08	8.9	10				8	540	0	TRUNK J	0	0.00	0				8	0
TRUNK E	571	0.07	11.8	16				8	642	0	TRUNK K	0	0.00	0				8	0
TRUNK F	0	0.00	0	0				8	0	0	TRUNK L	0	0.00	0				8	0

[illegible]

TYPE: 5009
SITE NAME: PINE VALLEY & TESTON

LO # 86418

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

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

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

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

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

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	190.8 cfm

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

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

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

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

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
ENS-4	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

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

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

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

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

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	June-20

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																					
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																					
LO#: 86418		Model: 5009		Builder: GOLD PARK HOMES		Date: 26/06/2020																																																															
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>1672</td> <td>10</td> <td>16720</td> </tr> <tr> <td>First</td> <td>1672</td> <td>11</td> <td>18392</td> </tr> <tr> <td>Second</td> <td>2079</td> <td>9</td> <td>18711</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>53,823.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>1524.1 m³</td> </tr> </tbody> </table>					Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1672	10	16720	First	1672	11	18392	Second	2079	9	18711	Third	0	9	0	Fourth	0	9	0	Total:			53,823.0 ft³	Total:			1524.1 m³	<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>ΔT °F</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>					Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7				ΔT °F				76				13
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																																		
Bsmt	1672	10	16720																																																																		
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			ΔT °F																																																																		
			76																																																																		
			13																																																																		
6.2.6 Sensible Gain due to Air Leakage																																																																					
$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																					
$= 0.137 \times 423.36 \times 7 \times 1.2 = 493 \text{ W}$																																																																					
$= 29778 \text{ Btu/h}$																																																																					
6.2.7 Sensible heat Gain due to Ventilation																																																																					
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																					
$80 \text{ CFM} \times 13 \text{ °F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$																																																																					
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: (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;">29,778</td> <td>9,886</td> <td>1.506</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>18,042</td> <td>0.495</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>15,263</td> <td>0.390</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: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	29,778	9,886	1.506	2	0.3	18,042	0.495	3	0.2	15,263	0.390	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:** 5009**BUILDER:** GOLD PARK HOMES**SFQT:** 3751**LO#** 86418**SITE:** PINE VALLEY & TESTON**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

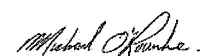
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	53823.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	200.0 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	-

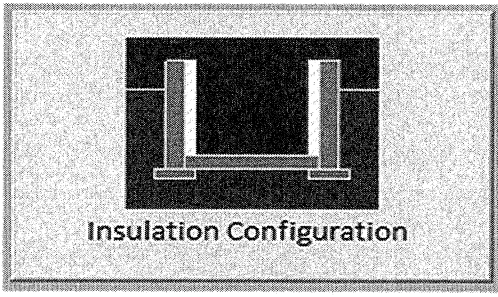
INDIVIDUAL BCIN: 19669

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):	17.7	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.4	
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):		2023

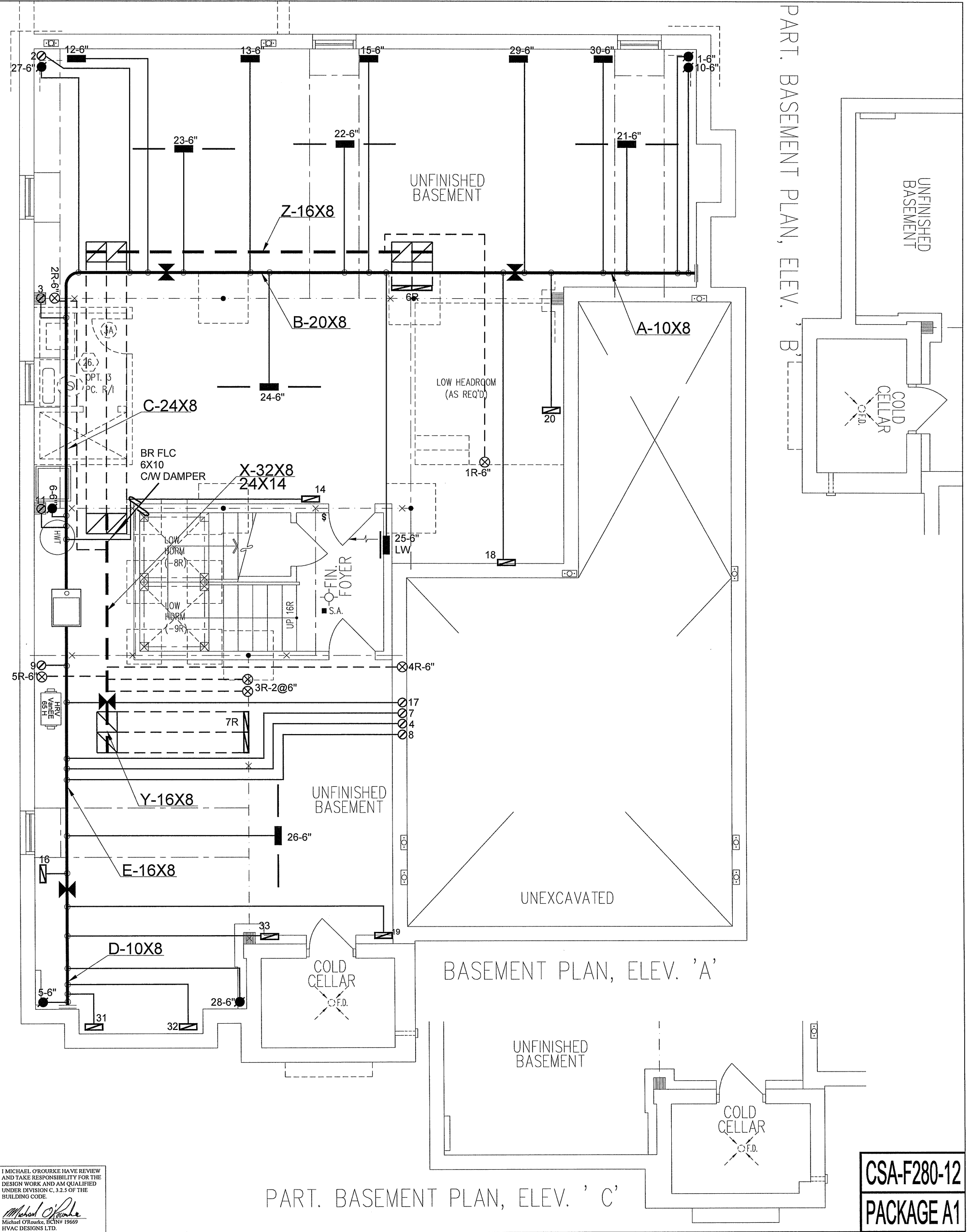
TYPE: 5009
LO# 86418

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):	1524.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2031.7 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 5009
LO# 86418



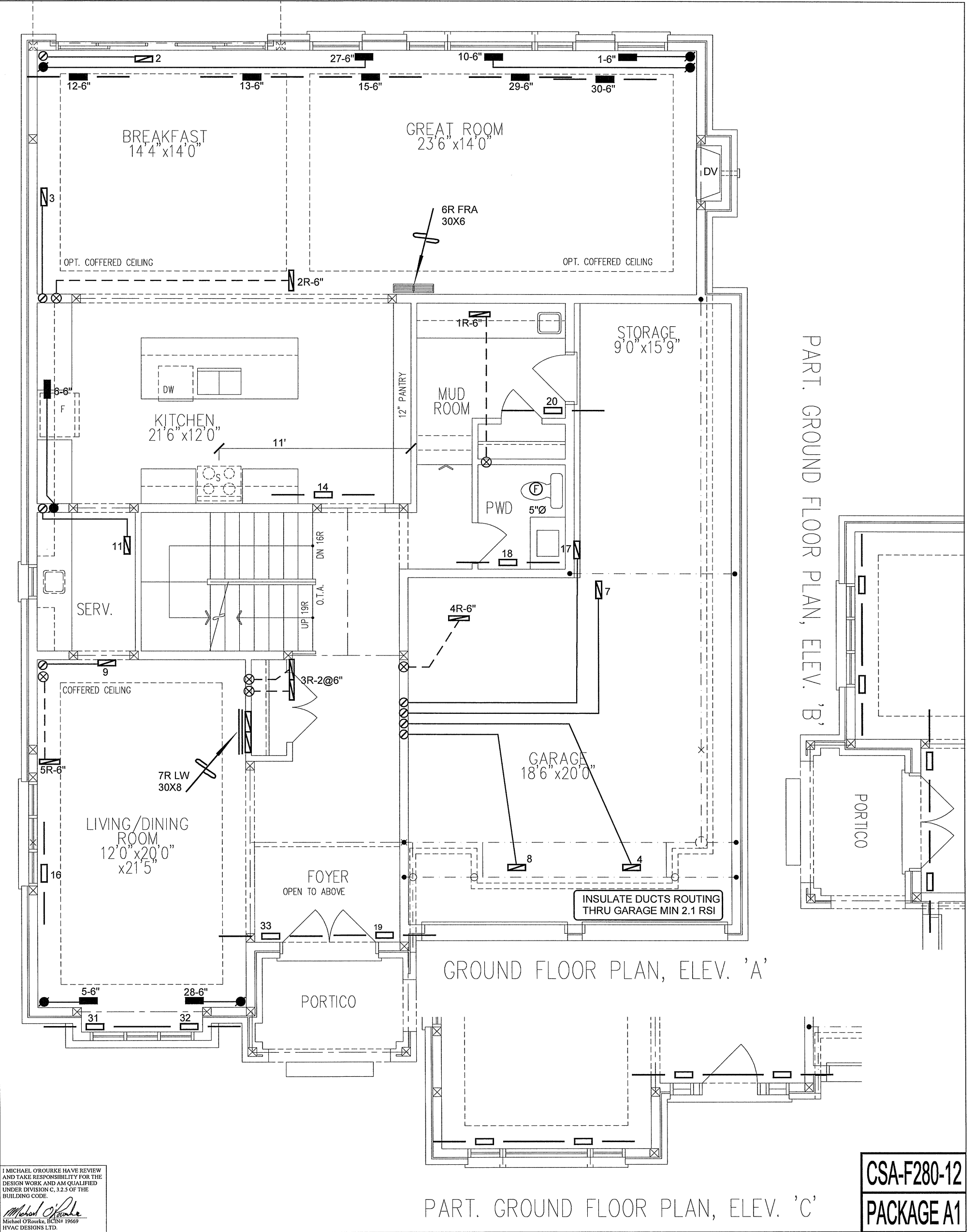
I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.

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

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

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Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 75696 BTU/H		# OF RUNS				S/A				R/A				FANS				Sheet Title					
GOLD PARK HOMES			UNIT DATA		3RD FLOOR												BASEMENT HEATING LAYOUT									
			MAKE		2ND FLOOR				14				5								6					
			MODEL		1ST FLOOR				13				2								2					
			EL196UH090XE48C		BASEMENT				6				1								0					
Project Name			88		MBTU/H														Date		JUNE/2020					
PINE VALLEY & TESTON VAUGHAN, ONTARIO			OUTPUT		85.6		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		1575		cfm @ 0.6" w.c.																		LO#	
			5009																							
3751 sqft																										



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AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
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BUILDING CODE.

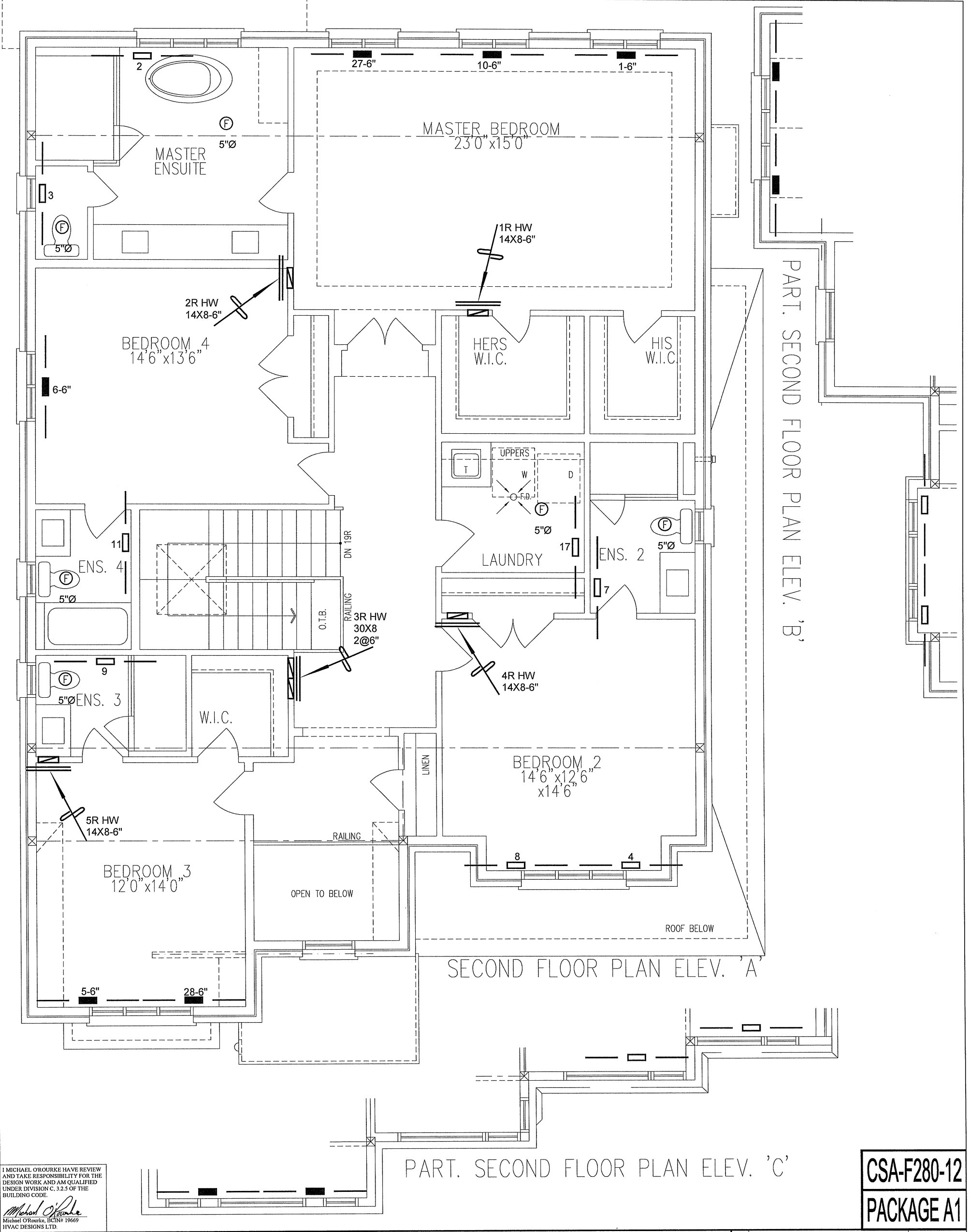
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
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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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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JUNE/2020	
5009			Scale	
3751 sqft		3/16" = 1'-0"		
		BCIN# 19669		
		LO#	86418	



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.

HVAC LEGEND								3.		
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Project Name			Date	JUNE/2020		
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"		
			BCIN# 19669			
5009			LO#	86418		
3751 sqft						