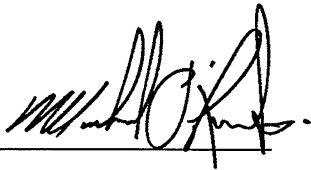


Schedule 1: Designer Information

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	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 42-1 Project: KLEINBURG GLEN	
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.			
<u>March 7, 2017</u> Date		 Signature of Designer	

NOTE:

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

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES
TYPE: 42-1
DATE: Mar-17
LO# 72994
GFA: 2983
WINTER NATURAL AIR CHANGE RATE 0.330
HEAT LOSS AT °F. 76
HEAT GAIN AT °F. 16
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-2	ENS-2	DEN
GRS.WALL AREA	297		297	261	54	117	144	108	171	126	153	180
GLAZING												
NORTH	0	0	0	7	0	15	0	0	0	0	22	15
EAST	0	0	0	0	0	0	20	0	10	0	0	0
SOUTH	0	0	0	0	0	0	0	15	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	267	1192	251	102	455	96	124	553	117	93
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.8	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	347	445	223	188	216	139	98	126	63	90
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	180	459	97	76	194	41
BASEMENT/CRAWL HEAT LOSS												
SLAB ON GRADE HEAT LOSS												
SUBTOTAL HT LOSS	2276		1747	1627	112	958	1669	1205	1307	846	1315	1056
SUB TOTAL HT GAIN												
LEVEL FACTOR / MULTIPLIER	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31
AIR CHANGE HEAT LOSS	699			605	112	294	513	370	402	260	404	457
AIR CHANGE HEAT GAIN	146			136	9	0	37	55	58	49	52	34
DUCT LOSS												
DUCT GAIN	156			0	0	0	218	158	171	0	0	0
HEAT GAIN PEOPLE	240			0	0	1	240	1	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	480			0	0	0	740	740	0	0	0	0
TOTAL HT LOSS BTU/H	3570			2574	476	1252	2400	1733	1880	1106	1719	1513
TOTAL HT GAIN x 1.3 BTU/H	4249			2292	158	1894	3226	2414	1071	833	881	1537

ROOM USE	EXP. WALL	CLG. HT.	DIN	KTGR	LAUN	FOY	PWD	BAS
GRS.WALL AREA	110		110	710	231	520	120	1044
GLAZING								
NORTH	0	0	0	0	0	0	0	6
EAST	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	92	411	86	40	1010	213
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.8	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0
EXPOSED FLOOR	2.7	1.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS								
SLAB ON GRADE HEAT LOSS								
SUBTOTAL HT LOSS	794		551	4728	479	1700	653	8543
SUB TOTAL HT GAIN								
LEVEL FACTOR / MULTIPLIER	0.30	0.43	0.30	0.43	0.30	0.43	0.30	0.50
AIR CHANGE HEAT LOSS	344		344	2152	678	1576	283	9149
AIR CHANGE HEAT GAIN	46		46	396	40	142	34	78
DUCT LOSS								
DUCT GAIN	0		0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	740		740	740	740	0	0	0
TOTAL HT LOSS BTU/H	1137		1738	7623	2242	5212	936	17693
TOTAL HT GAIN x 1.3 BTU/H	1738		1738	7623	1636	2395	568	1317

TOTAL HEAT GAIN BTU/H: 34433 TONS: 2.87 LOSS DUE TO VENTILATION LOAD BTU/H: 2852 STRUCTURAL HEAT LOSS: 52562 TOTAL COMBINED HEAT LOSS BTU/H: 55414

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 42-1

DATE: Mar-17

GFA: 2983 LO# 72994

HEATING CFM 1100 COOLING CFM 1100
TOTAL HEAT LOSS 52,562 TOTAL HEAT GAIN 33,832
AIR FLOW RATE CFM 20.93 AIR FLOW RATE CFM 32.51

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 64,000
DESIGN CFM = 1100
CFM @ 5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	8	4
R/A	0	0	4	2	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	13	14	15	16	17	19	20	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-2	ENS	MBR	ENS-2	DIN	KT/GR	KT/GR	KT/GR	LAUN	FOY	PWD	DEN	BAS
RM LOSS MBH	1.78	1.29	0.48	1.25	2.40	1.73	1.88	1.11	1.29	1.78	1.72	1.14	2.37	2.37	2.37	2.24	5.21	0.94	1.51	4.42
CFM PER RUN HEAT	37	27	10	26	50	36	39	23	27	37	36	24	50	50	50	47	109	20	32	93
RM GAIN MBH	2.12	1.15	0.16	1.89	3.23	2.41	1.07	0.83	1.15	2.12	0.88	1.74	2.54	2.54	2.54	1.64	2.40	0.57	1.54	0.33
CFM PER RUN COOLING	69	37	5	62	105	78	35	27	37	69	29	56	83	83	83	53	78	18	50	11
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.15	0.17	0.17	0.16
EQUIVALENT LENGTH	46	55	23	38	31	28	27	36	66	41	39	23	41	31	31	40	24	28	20	32
TOTAL EFFECTIVE LENGTH	186	255	143	198	151	198	177	216	206	201	209	123	181	161	130	174	108	133	150	132
ADJUSTED PRESSURE	0.09	0.07	0.12	0.09	0.11	0.09	0.1	0.08	0.08	0.09	0.08	0.14	0.09	0.1	0.12	0.1	0.14	0.13	0.11	0.12
ROUND DUCT SIZE	5	4	4	5	6	5	4	4	4	5	4	4	5	5	5	4	5	4	4	5
HEATING VELOCITY (ft/min)	272	310	115	191	255	264	447	264	310	272	413	275	367	367	367	539	800	229	367	683
COOLING VELOCITY (ft/min)	507	424	57	455	535	573	402	310	424	507	333	642	609	609	609	608	573	207	574	81
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	C	B	B	C	A	A	C	B	A	A	A	B	C	C	B	B

RUN #	25	26	27
ROOM NAME	BAS	BAS	BAS
RM LOSS MBH	4.42	4.42	4.42
CFM PER RUN HEAT	93	93	93
RM GAIN MBH	0.33	0.33	0.33
CFM PER RUN COOLING	11	11	11
ADJUSTED PRESSURE	0.16	0.16	0.16
EQUIVALENT LENGTH	32	14	26
TOTAL EFFECTIVE LENGTH	140	130	110
ADJUSTED PRESSURE	0.09	0.11	0.12
ROUND DUCT SIZE	6	5	5
HEATING VELOCITY (ft/min)	474	683	683
COOLING VELOCITY (ft/min)	56	81	81
OUTLET GRILL SIZE	4X10	3X10	3X10
TRUNK	A	C	C

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	371	0.07	10	12	8	0	0.00	0	0	0
TRUNK B	678	0.07	12.5	18	8	0	0.00	0	0	0
TRUNK C	424	0.08	10.2	12	8	0	0.00	0	0	0
TRUNK D	0	0.00	0	0	8	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	BR
AIR VOLUME	165	195	95	105	165	195	180
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15
EQUIVALENT LENGTH	42	28	33	32	24	22	16
TOTAL EFFECTIVE LENGTH	185	135	165	165	190	145	165
ADJUSTED PRESSURE	0.07	0.09	0.07	0.08	0.07	0.09	0.08
ROUND DUCT SIZE	7.4	7.4	6	6	7.4	7.4	7.4
INLET GRILL SIZE	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	14

TYPE: 42-1
SITE NAME: KLEINBURG GLEN

LO # 72994

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

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

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

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

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

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	180.2 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	
More than 5 - Part 6	TOTAL	79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	180.2	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	41.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 60H-V+	Location: BSMT
139.0 cfm	3.0 sones ☒ HVI Approved

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

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
BATH	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
139 cfm high	50 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:	March-17

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																			
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																			
LO#: 72994		Model: 42-1		Builder: GOLD PARK HOMES		Date: 3/7/2017																																																													
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5.2.3.1 Heat Loss due to Air Leakage				6.2.6 Sensible Gain due to Air Leakage																																																															
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$				$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																															
0.330 x 320.90 x 42 °C x 1.2 = 5363 W = 18299 Btu/h				0.121 x 320.90 x 9 °C x 1.2 = 414 W = 1411 Btu/h																																																															
5.2.3.2 Heat Loss due to Mechanical Ventilation				6.2.7 Sensible heat Gain due to Ventilation																																																															
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$				$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																															
139 CFM x 76 °F x 1.08 x 0.25 = 2852 Btu/h				139 CFM x 16 °F x 1.08 x 0.25 = 600 Btu/h																																																															
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																			
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*HLairbv = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HLairrv = 0

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 42-1**BUILDER:** GOLD PARK HOMES**SFQT:** 2983**LO#** 72994**SITE:** KLEINBURG GLEN**DESIGN ASSUMPTIONS**

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

BUILDING DATA

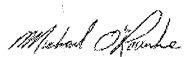
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	40797.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.35	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 54.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	174.0 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	29.8
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

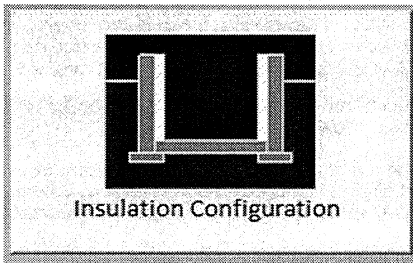
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.5	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
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):	1711	

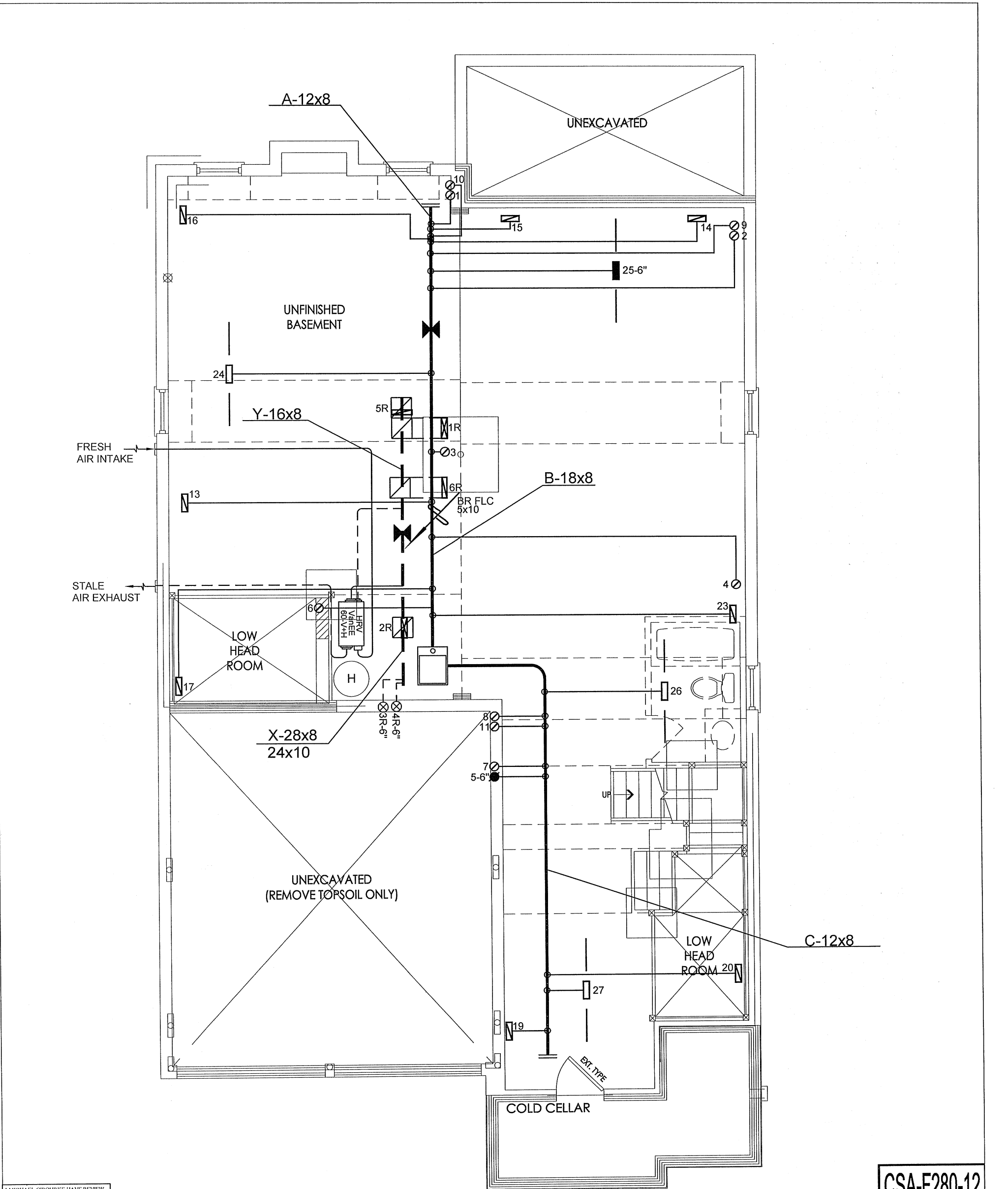
TYPE: 42-1
LO# 72994

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1155.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1540.0 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	65.6	65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.121			

TYPE: 42-1
LO# 72994



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.

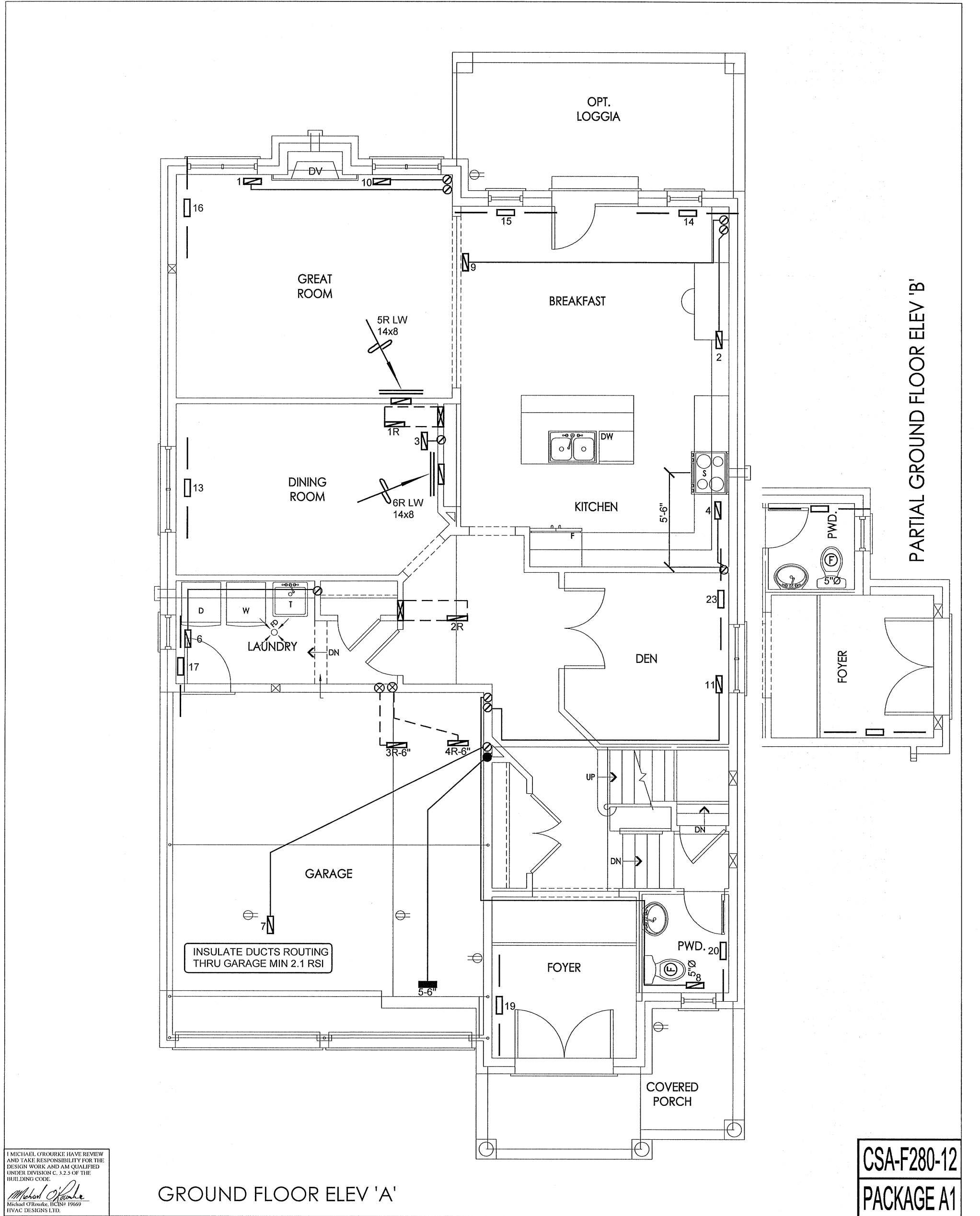
BASEMENT FLOOR ELEV 'A'

CSA-F280-12
PACKAGE A1

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

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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 55414 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
GOLD PARK HOMES			MAKE LENNOX		3RD FLOOR					
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			MODEL EL296UH070XE36B		2ND FLOOR	11	4	4	Date MAR/2017	
			INPUT 66 MBTU/H		1ST FLOOR	8	2	2	Scale 3/16" = 1'-0"	
			OUTPUT 64 MBTU/H		BASEMENT	4	1	0	BCIN# 19669	
42-1			COOLING 3.0 TONS		ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				LO#	72994
2983 sqft			FAN SPEED 1100 cfm @ 0.6" w.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.

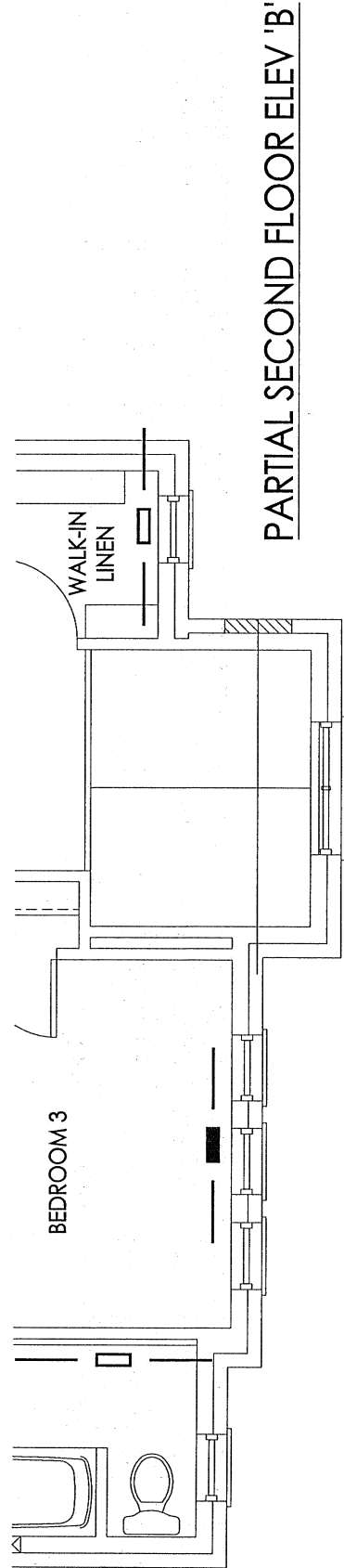
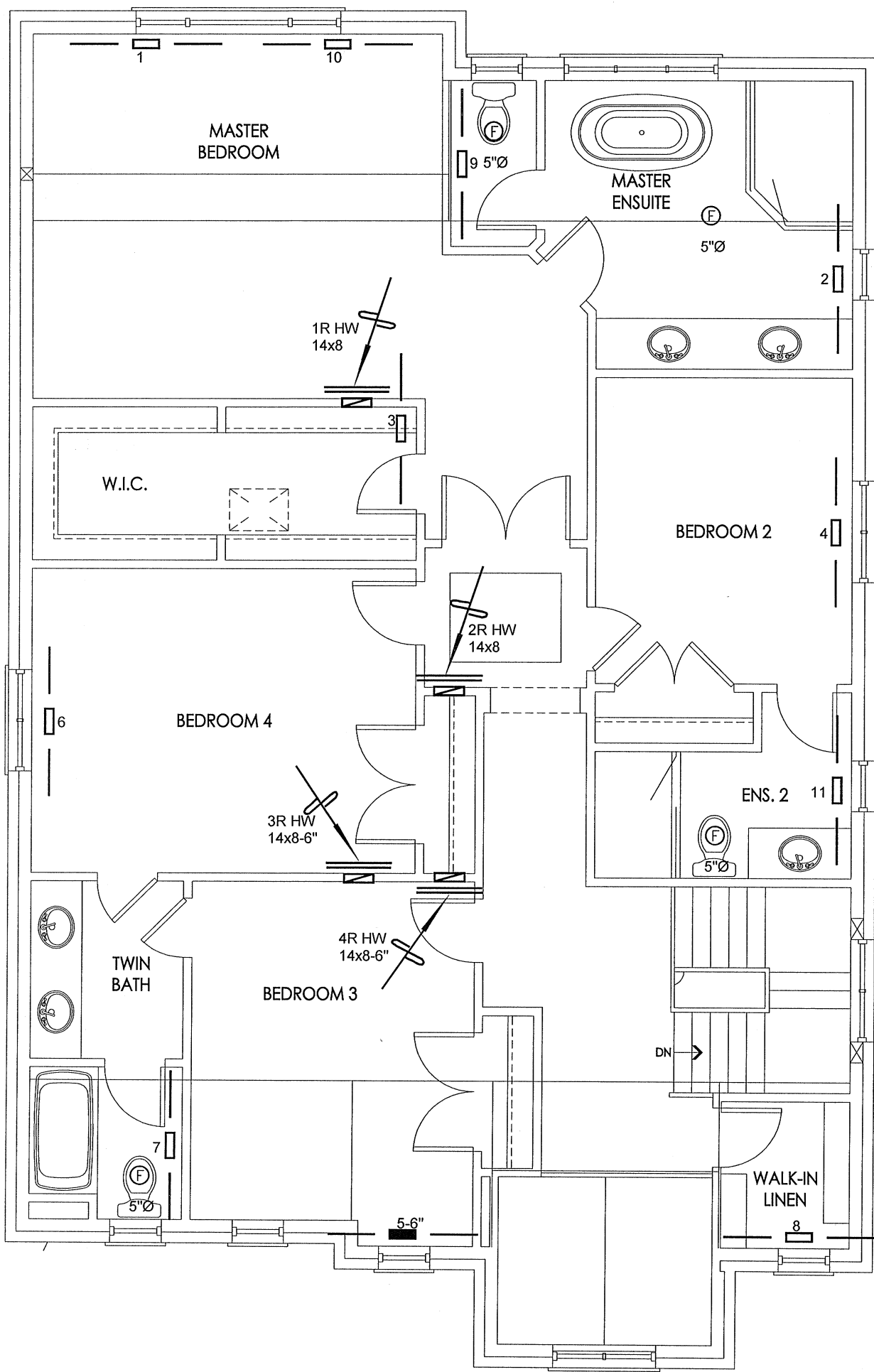
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

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Client GOLD PARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@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 FIRST FLOOR HEATING LAYOUT	
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			Date MAR/2017	
42-1			Scale 3/16" = 1'-0"	
2983 sqft			BCIN# 19669	
			LO#	72994



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.

SECOND FLOOR ELEV 'A'

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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		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.	Sheet Title	
GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
42-1	2983 sqft	LO#	72994	