

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: 4003 THE GLENARDEN Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
January 23, 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.

SITE NAME: PINE VALLEY & TESTON BUILDER: GOLD PARKHOMES TYPE: 4003 THE GLENARDEN DATE: Jan-18 L# 77468 WINTER NATURAL AIR CHANGE RATE 0.341 HEAT LOSS AT 'F' 76 CSA-F280-12
SUMMER NATURAL AIR CHANGE RATE 0.124 HEAT GAIN AT 'F' 16 SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	HEAT LOSS
GRS WALL AREA	33	9	300	228	46	118	137	109	64	73	
GLAZING											
NORTH	21.3	16.8	0	0	0	17	0	0	0	8	
EAST	21.3	42.4	0	0	0	0	0	0	0	170	
SOUTH	21.3	25.7	0	0	0	0	0	0	0	0	
WEST	21.3	42.4	34	17	0	0	0	0	0	0	
SKYL.T.	37.2	103.0	0	0	0	0	0	0	0	0	
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.5	0.9	266	899	46	101	529	92	64	284	65
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	290	166	200	100	70	166	98	126	64
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS											
SLAB ON GRADE HEAT LOSS											
SUBTOTAL HT LOSS	2284		1874	1653	233	1114	1162	986	410	542	235
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
AIR CHANGE HEAT LOSS	711			515	91	347	362	307	128	169	26
AIR CHANGE HEAT GAIN	209										
DUCT LOSS											
DUCT GAIN											
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	2		480	0	0	1	240	1	240	0	0
TOTAL HT LOSS BTU/H	2995		722	2167	384	1461	1524	1293	538	710	340
TOTAL HT GAIN x 1.3 BTU/H			4269	1790			2258				

ROOM USE	EXP. WALL	CLG. HT.	MEDIA	DIN	KTGR	STDY	WIR	FOY	MUD	BAS
GRS WALL AREA	560			253	770	121	132	473	300	1110
GLAZING										
NORTH	21.3	16.8	0	0	0	0	0	0	0	12
EAST	21.3	42.4	56	0	0	0	0	0	0	255
SOUTH	21.3	25.7	0	0	0	0	0	0	0	0
WEST	21.3	42.4	0	0	0	0	0	0	0	0
SKYL.T.	37.2	103.0	0	0	0	0	0	0	0	0
DOORS	25.2	5.2	10	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	495	977	203	89	132	368	271	20
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	365	219	605	397	589	1642	341	546
NO ATTIC EXPOSED CLG	2.7	1.4	79	217	108	0	0	0	0	1965
EXPOSED FLOOR	2.6	0.5	444	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										
SLAB ON GRADE HEAT LOSS										
SUBTOTAL HT LOSS	5450		3420	1701	5421	1078	589	4464	1906	8891
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
AIR CHANGE HEAT LOSS	1697			728	2321	462	252	1911	816	10517
AIR CHANGE HEAT GAIN	382									80
DUCT LOSS										
DUCT GAIN										
HEAT GAIN PEOPLE	240		452	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0		0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	7862		722	2429	7742	1540	841	6376	2722	19708
TOTAL HT GAIN x 1.3 BTU/H			4668	2496	9041					

TOTAL HEAT GAIN BTU/H: 41988 TONS: 3.50 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 60292 TOTAL COMBINED HEAT LOSS BTU/H: 63473

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.
MICHAEL O'ROURKE
INDIVIDUAL BCIN: 19669

**SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARKHOMES**

TYPE: 4003 THE GLENARDEN DATE: Jan-18 GFA: 3280 LO# 77458

HEATING CFM	1525	COOLING CFM	1525
TOTAL HEAT LOSS	60,292	TOTAL HEAT GAIN	41,326
AIR FLOW RATE CFM	25.29	AIR FLOW RATE CFM	36.9

EL296UH090XE48C	AFUE = 96 %
FAN SPEED	INPUT (BTU/H) = 88,000
LOW	OUTPUT (BTU/H) = 85,000
MEDIUM	DESIGN CFM = 1525
HIGH	CFM @ 5" E.S.P.
TEMPERATURE RISE	52 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	10	5
R/A	0	0	5	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	12	14	15	16	17	18	19	20	21	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	MEDIA	MEDIA	MBR	ENS-2	DIN	KT/GR	KT/GR	KT/GR	MUD	W/R	FOY	MEDIA	STDY	FOY	KT/GR
RM LOSS MBH	1.50	2.17	0.38	1.46	1.52	1.29	0.54	2.62	2.62	1.50	0.71	2.43	1.94	1.94	1.94	2.72	0.84	3.19	2.62	1.54	3.19	1.94
CFM PER RUN HEAT	38	55	10	37	39	33	14	66	66	38	18	61	49	49	49	69	21	81	66	39	81	49
RM GAIN MBH	2.13	1.79	0.13	2.01	2.26	2.16	0.18	2.16	2.16	2.13	0.34	2.50	2.26	2.26	2.26	1.67	0.18	2.27	2.16	1.83	2.27	2.26
CFM PER RUN COOLING	79	66	5	74	83	80	6	80	80	79	13	92	83	83	83	62	7	84	80	68	84	83
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH	46	55	27	27	47	45	54	56	61	51	27	31	42	35	33	21	29	53	71	11	53	30
EQUIVALENT LENGTH	150	140	130	150	120	160	150	175	185	140	260	140	170	160	100	250	120	110	170	130	120	110
TOTAL EFFECTIVE LENGTH	196	195	157	177	167	205	204	231	246	191	287	171	212	195	133	271	149	163	241	141	173	140
ADJUSTED PRESSURE	0.09	0.09	0.11	0.1	0.1	0.08	0.08	0.07	0.07	0.09	0.06	0.09	0.08	0.08	0.12	0.06	0.12	0.1	0.07	0.12	0.09	0.12
ROUND DUCT SIZE	5	5	4	5	5	5	4	6	6	5	4	6	6	6	5	6	4	5	6	5	5	5
HEATING VELOCITY (ft/min)	279	404	115	272	286	242	161	337	337	279	207	311	250	250	360	352	241	595	337	286	595	360
COOLING VELOCITY (ft/min)	580	485	57	543	609	587	69	408	408	580	149	469	423	423	609	316	80	617	408	499	617	609
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	3.94	3.94	3.94	3.94	3.94
CFM PER RUN HEAT	100	100	100	100	100
RM GAIN MBH	0.39	0.39	0.39	0.39	0.39
CFM PER RUN COOLING	15	15	15	15	15
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	44	19	23	35	44
EQUIVALENT LENGTH	150	160	150	140	110
TOTAL EFFECTIVE LENGTH	194	179	173	175	154
ADJUSTED PRESSURE	0.08	0.09	0.09	0.09	0.11
ROUND DUCT SIZE	6	6	6	6	5
HEATING VELOCITY (ft/min)	510	510	510	510	734
COOLING VELOCITY (ft/min)	76	76	76	76	110
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.08	10.6	14	8	0	0.00	0	0	8
TRUNK B	0.06	14.5	24	8	0	0.00	0	0	8
TRUNK C	0.07	10.8	14	8	0	0.00	0	0	8
TRUNK D	0.07	12.2	18	8	0	0.00	0	0	8
TRUNK E	0.06	17.7	28	8	0	0.00	0	0	8
TRUNK F	0.00	0	0	0	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	23	24
AIR VOLUME	85	145	145	145	180	390	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	41	53	45	67	71	26	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	195	190	185	190	185	145	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	236	243	230	257	256	171	170	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.06	0.06	0.06	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
ROUND DUCT SIZE	6	7.3	7.3	7.3	7.9	9.6	7.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 4003 THE GLENARDEN
SITE NAME: PINE VALLEY & TESTON

LO # 77458

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	6 @ 10.6 cfm 63.6 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	155 cfm
Required Supplemental Capacity	35.8 cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION
CFM 155.0 CFM X ΔT °F 76 F X FACTOR 1.08 X % LOSS 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	
W/R QTXEN050C 50 ☒ 0.3	

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

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

BUILDER:	GOLD PARKHOMES
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: January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations											
Formula Sheet (For Air Leakage / Ventilation Calculation)											
LO#: 77458		Model: 4003 THE GLENARDEN		Builder: GOLD PARKHOMES		Date: 1/23/2018					
Volume Calculation				Air Change & Delta T Data							
House Volume		Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)						
		Bsmt	1514	9	13777.4						
		First	1514	11	16654						
		Second	1782	9	16216.2						
		Third	0	9	0						
		Fourth	0	9	0						
		Total:			46,647.6 ft ³						
		Total:			1320.9 m ³						
5.2.3.1 Heat Loss due to Air Leakage						6.2.6 Sensible Gain due to Air Leakage					
$HL_{air-b} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$						$HG_{satb} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$					
		0.341	x	366.92	x	42 °C	x	1.2	=	481 W	
										=	1640 Btu/h
5.2.3.2 Heat Loss due to Mechanical Ventilation						6.2.7 Sensible heat Gain due to Ventilation					
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$						$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$					
		155 CFM	x	76 °F	x	1.08	x	0.25	=	661 Btu/h	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)											
$HL_{air} = Level Factor \times HL_{air-bv} \times \{ (HL_{aggr} + HL_{bggr}) \div (HL_{aggr-level} + HL_{bggr-level}) \}$											
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)		Level Conductive Heat Loss: (HL-level)		Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)					
1	0.5	21,634		8,891	1,217						
2	0.3			15,159	0.428						
3	0.2			13,894	0.311						
4	0			0	0.000						
5	0			0	0.000						
*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:** 4003 THE GLENARDEN**BUILDER:** GOLD PARKHOMES**SFQT:** 3280**LO#** 77458**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)	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):	46647.6	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.1 ft
LENGTH: 59.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	182.0 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	-

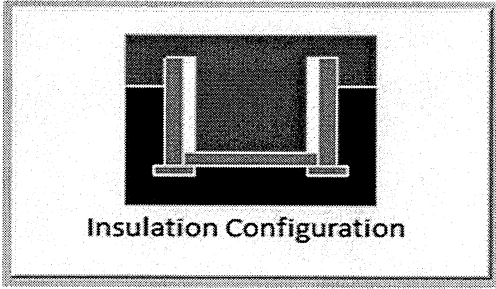
INDIVIDUAL BCIN: 19669

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):	18.0	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.8	
Depth Below Grade (m):	1.86	
Window Area (m ²):	1.1	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1806	

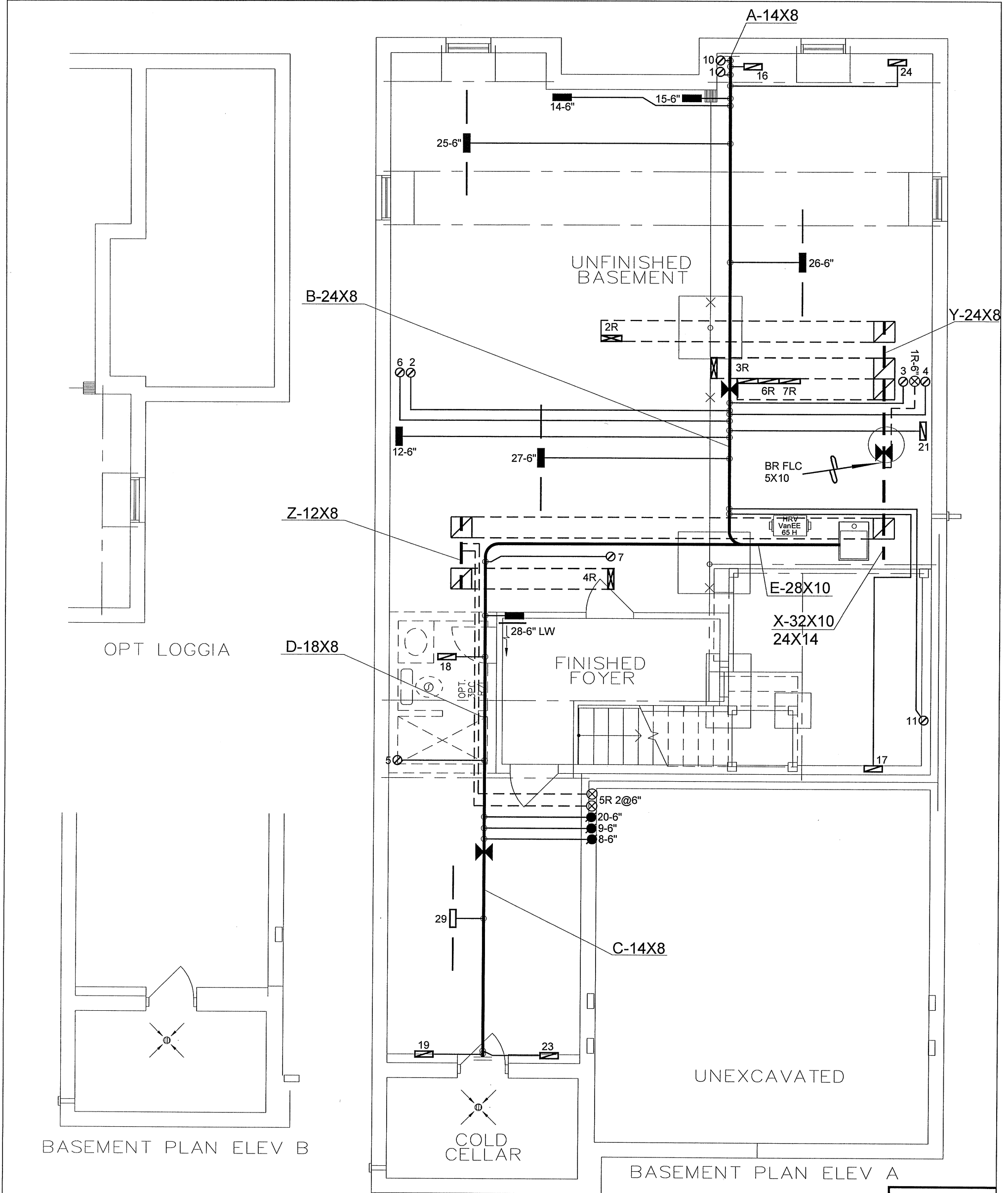
TYPE: 4003 THE GLENARDEN
LO# 77458

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):	7.04			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1320.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1760.8 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):	0.341			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4003 THE GLENARDEN
LO# 77458



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.

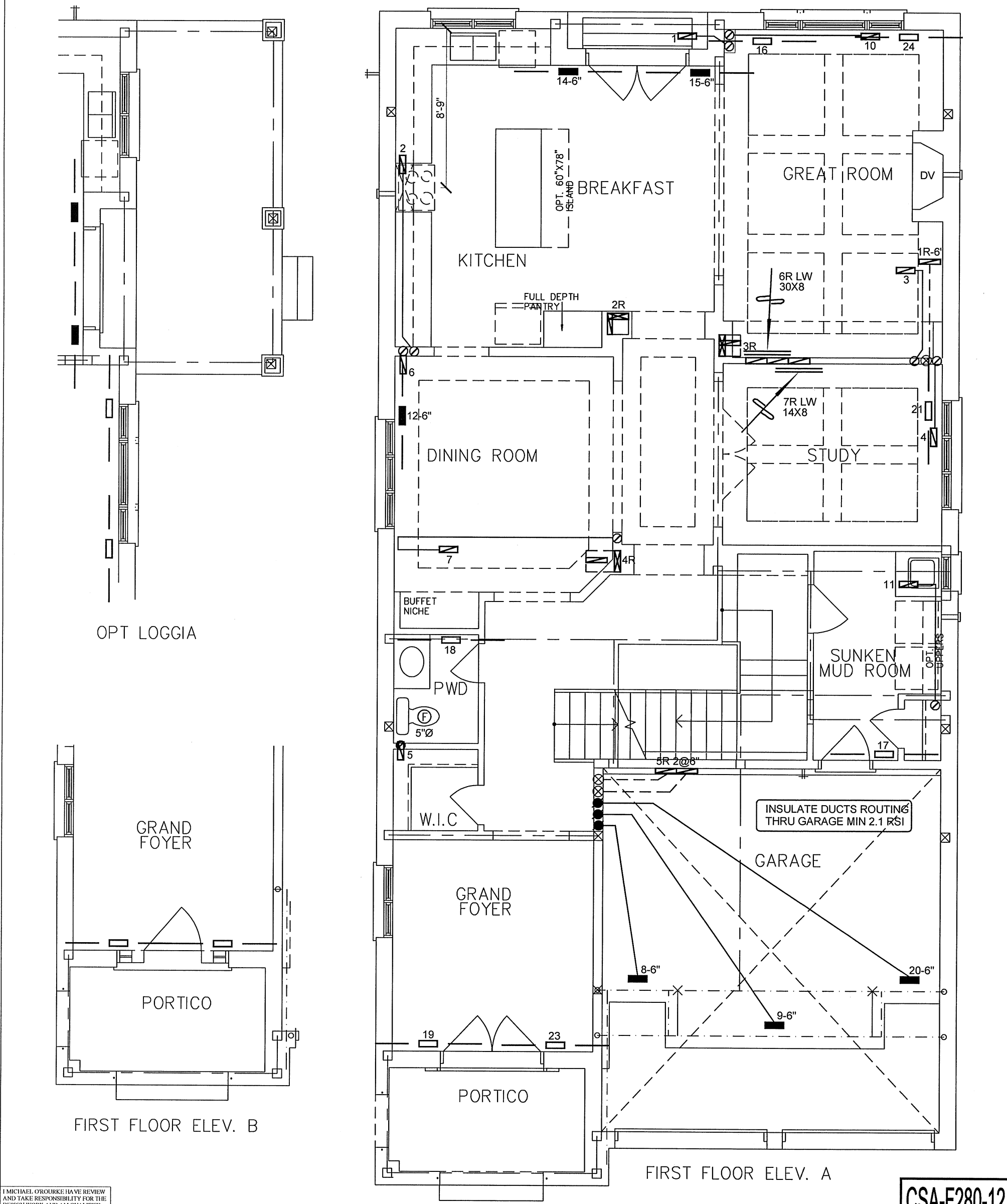
CSA-F280-12

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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client		 375 Finley Ave - Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services 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 63473 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title	
GOLD PARK HOMES			MAKE	LENNOX	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name			MODEL	EL296UH090XE48C	2ND FLOOR	12	5	3		
PINE VALLEY & TESTON VAUGHAN, ONTARIO			INPUT	88 MBTU/H	1ST FLOOR	10	2	2		
THE GLENARDEN 4003		OUTPUT	85 MBTU/H	BASEMENT	5	1	0	Date	JAN/2018	
3280 sqft		COOLING	3.5 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				Scale	3/16" = 1'-0"	
		FAN SPEED	1525 cfm @ 0.6" w.c.					BCIN# 19669		
					LO#		77458			



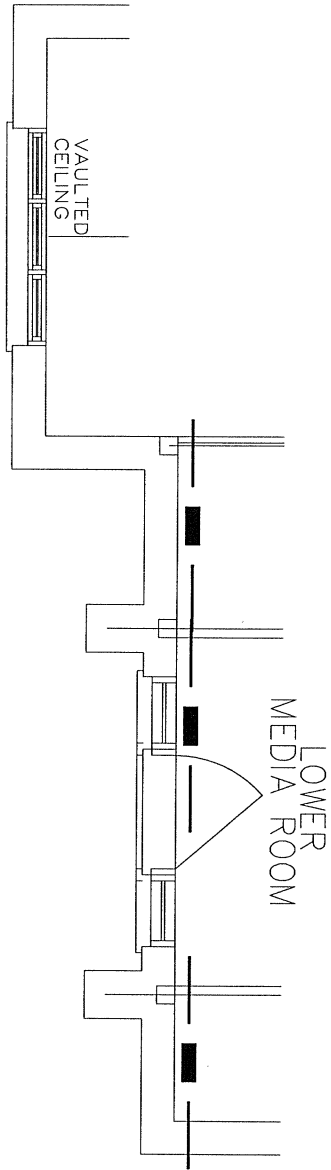
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

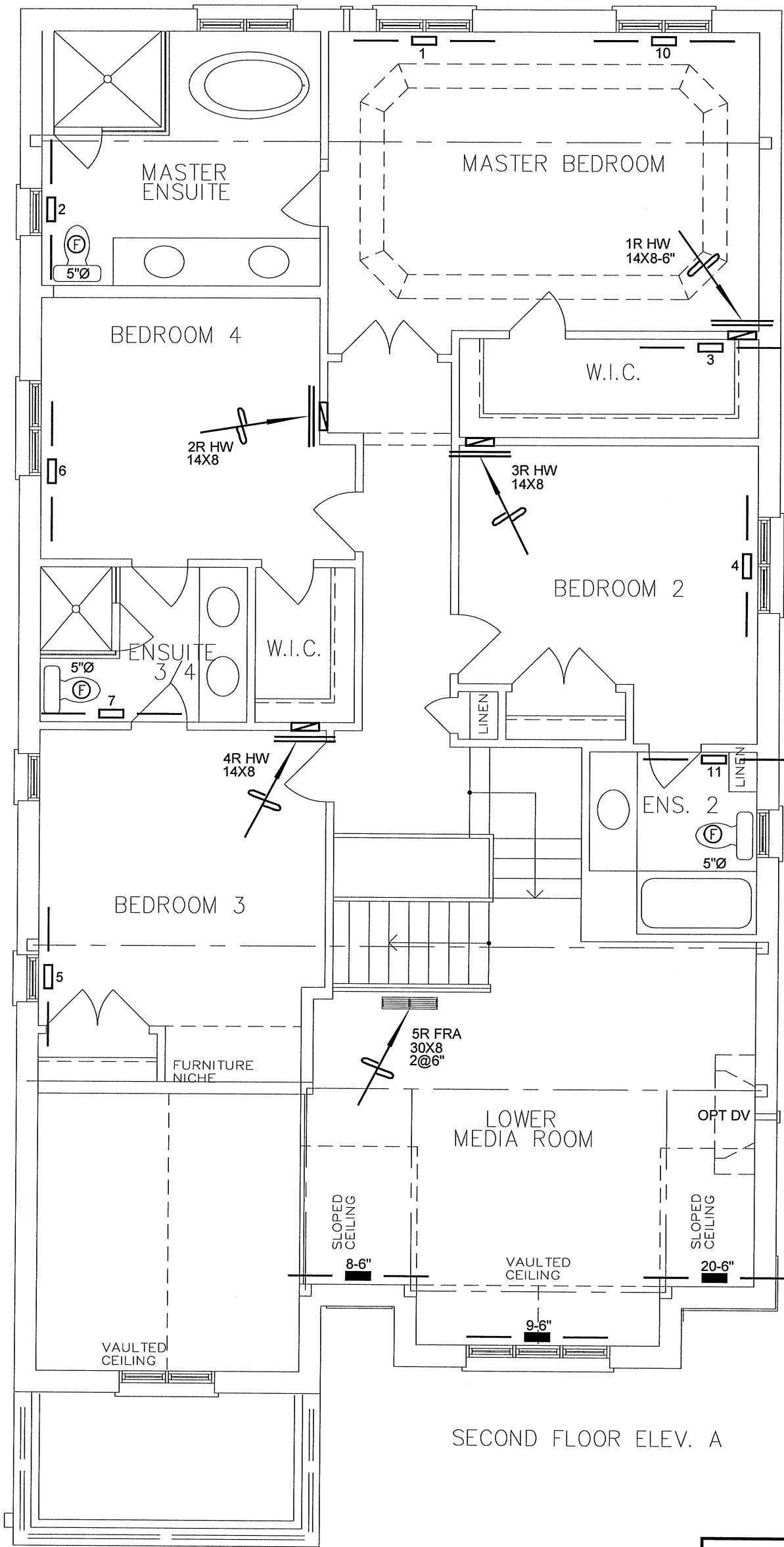
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client		 375 Finley Ave - Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
THE GLENARDEN 4003			BCIN# 19669	
3280 sqft			LO#	77458



SECOND FLOOR ELEV. B



SECOND FLOOR ELEV. A

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		

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

THE GLENARDEN
4003

3280 sqft

HVAC

DESIGNS LTD.

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

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

JAN/2018

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

77458