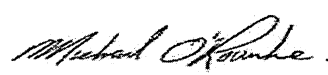


Schedule 1: Designer Information

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

A. Project Information			
Building number, street name		Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☒ HVAC – House ☐ Building Structural ☐ Small Buildings ☐ Building Services ☐ Plumbing – House ☐ Large Buildings ☐ Detection, Lighting and Power ☐ Plumbing – All Buildings ☐ Complex Buildings ☐ Fire Protection ☐ 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: 5001 - THE HILLSBOROUGH ELEVATION A 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 22, 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 PARK HOMES										ELEVATION A TYPE: 5001 - THE HILLSBOROUGH		DATE: Jan-18 LO# 77471		WINTER NATURAL AIR CHANGE RATE 0.330 SUMMER NATURAL AIR CHANGE RATE 0.114		HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 14		CSA-F280-12 SB-12 PACKAGE A1	
ROOM USE EXP. WALL CLG. HT.		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		ENS-4			
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN			
GRS.WALL AREA		410		225		90		99		333		180		63		54			
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN			
NORTH		21.3		16.3		0		0		0		0		8		170		130	
EAST		21.3		41.8		0		0		30		638		1266		0		0	
SOUTH		21.3		25.2		0		0		0		0		0		0		0	
WEST		21.3		41.8		38		809		1580		28		596		1171		0	
SKYL.T.		37.2		102.0		0		0		0		0		0		0		0	
DOORS		25.2		4.6		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		0.8		372		1660		301		197		879		160		46	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0.7		0		0		0		0		0		0		0	
EXPOSED CLG		1.3		0.6		340		436		206		156		200		94		120	
NO ATTIC EXPOSED CLG		2.7		1.3		0		0		0		0		0		0		0	
EXPOSED FLOOR		2.6		0.5		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		108		275		50	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		2905		1675		556		1038		3199		1897		880		530		311	
SUB TOTAL HT GAIN		2097		1425		145		489		0.20		0.33		0.20		0.33		0.20	
LEVEL FACTOR / MULTIPLIER		0.20		0.33		0.20		0.33		0.20		0.33		0.20		0.33		0.20	
AIR CHANGE HEAT LOSS		937		552		183		342		1054		625		280		174		28	
AIR CHANGE HEAT GAIN		189		129		13		44		167		109		117		0		0	
DUCT LOSS		0		0		0		0		425		0		0		0		0	
DUCT GAIN		0		0		0		0		293		0		0		0		0	
HEAT GAIN PEOPLE		240		0		0		1		240		1		240		0		0	
HEAT GAIN APPLIANCES/LIGHTS		671		0		0		671		671		671		671		0		0	
TOTAL HT LOSS BTU/H		3862		2227		739		1380		4679		2522		1287		704		441	
TOTAL HT GAIN x 1.3 BTU/H		4468		2020		206		1877		4184		2880		489		441			

ROOM USE EXP. WALL CLG. HT.		LIB		KT/GT		DIN		LAUN		WIR		FOY		MUD		BAS	
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
GRS.WALL AREA		480		650		200		117		60		310		286		1176	
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
NORTH		21.3		16.3		0		0		0		0		0		15	
EAST		21.3		41.8		85		1809		3566		0		0		340	
SOUTH		21.3		25.2		0		0		0		0		0		0	
WEST		21.3		41.8		180		3192		6276		0		0		0	
SKYL.T.		37.2		102.0		0		0		0		0		0		0	
DOORS		25.2		4.6		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		0.8		395		1763		320		45		506		92	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0.7		0		0		0		0		0		0	
EXPOSED CLG		1.3		0.6		0		0		0		0		0		0	
NO ATTIC EXPOSED CLG		2.7		1.3		182		500		236		0		0		568	
EXPOSED FLOOR		2.6		0.5		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		6748	
SUBTOTAL HT LOSS		4072		5423		1464		724		223		2423		1692		9710	
SUB TOTAL HT GAIN		4111		6680		0.30		0.43		0.30		0.43		0.30		0.43	
LEVEL FACTOR / MULTIPLIER		0.30		0.43		0.30		0.43		0.30		0.43		0.30		0.43	
AIR CHANGE HEAT LOSS		1763		2348		634		238		97		1049		733		11039	
AIR CHANGE HEAT GAIN		371		604		90		53		4		40		28		66	
DUCT LOSS		0		0		0		0		0		0		0		0	
DUCT GAIN		0		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE		240		671		671		671		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		671		7771		2098		962		320		3472		2425		671	
TOTAL HT LOSS BTU/H		5635		10340		6700		1704		57		624		1307		1915	
TOTAL HT GAIN x 1.3 BTU/H		6700		6700		6700		6700		6700		6700		6700		6700	

SITE NAME: PINE VALLEY & TESTON
BUILDING: GOLD PARK HOMES

ELEVATION A

TYPE: 5001 - THE HILLSBOROUGH

DATE: Jan-18

GFA: 3588 LO# 77471

HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 61,031 TOTAL HEAT GAIN 41,500
AIR FLOW RATE CFM 20.56 AIR FLOW RATE CFM 30.24

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	5
R/A	0	0	4	2	1

EL296UH09XE48C
FAN SPEED
LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35
plenum pressure s/a 0.18
max s/a diff press. loss 0.02
min adjusted pressure s/a 0.16
r/a grille press. loss 0.17
adjusted pressure r/a 0.15

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'0" unless noted otherwise on layout.

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RM LOSS MBH	1.93	2.23	0.74	1.38	2.34	2.52	0.64	2.34	0.64	1.93	0.70	2.92	2.92	2.59	2.10	0.96	0.32	FOY	MUD	BAS	BAS	BAS	BAS	
CFM PER RUN HEAT	40	46	15	28	48	52	13	48	13	40	14	60	60	53	53	43	20	7	71	50	85	85	85	
RM GAIN MBH	2.23	2.02	0.21	1.88	2.09	2.89	0.24	2.09	0.24	2.23	0.44	3.35	3.35	3.45	3.45	2.28	1.70	0.06	0.62	1.31	0.38	0.38	0.38	
CFM PER RUN COOLING	68	61	6	57	63	87	7	63	7	68	13	101	101	104	104	69	52	2	19	40	12	12	12	
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	
ACTUAL DUCT LGH	64	49	31	31	49	48	30	45	26	75	48	50	45	50	37	29	45	5	31	11	40	28	29	47
EQUIVALENT LENGTH	205	165	110	135	125	180	145	105	165	205	220	120	120	120	190	195	100	150	170	120	190	160	160	
TOTAL EFFECTIVE LENGTH	269	214	141	166	174	228	175	150	191	280	268	170	165	170	157	219	240	105	181	160	218	189	207	
ADJUSTED PRESSURE	0.06	0.08	0.12	0.1	0.1	0.07	0.1	0.11	0.09	0.06	0.06	0.1	0.1	0.1	0.1	0.08	0.07	0.16	0.1	0.1	0.07	0.09	0.08	
ROUND DUCT SIZE	6	5	4	5	5	6	4	5	4	6	4	6	6	6	5	5	4	5	4	5	6	5	6	
HEATING VELOCITY (ft/min)	204	338	172	206	352	265	149	352	149	204	161	306	306	270	270	316	147	80	521	574	624	433	433	
COOLING VELOCITY (ft/min)	347	448	69	419	463	444	80	463	80	347	149	515	515	530	530	507	382	23	140	459	88	61	88	
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	
TRUNK	A	D	C	D	D	A	D	D	D	A	A	B	B	A	B	B	B	C	B	D	A	A	D	

ROOM NAME	25	26	KT/GT
RM LOSS MBH	4.15	4.15	2.59
CFM PER RUN HEAT	85	85	53
RM GAIN MBH	0.38	3.45	
CFM PER RUN COOLING	12	104	
ADJUSTED PRESSURE	0.16	0.16	
ACTUAL DUCT LGH	40	35	
EQUIVALENT LENGTH	110	130	
TOTAL EFFECTIVE LENGTH	150	165	
ADJUSTED PRESSURE	0.11	0.1	
ROUND DUCT SIZE	5	6	
HEATING VELOCITY (ft/min)	624	270	
COOLING VELOCITY (ft/min)	88	530	
OUTLET GRILL SIZE	3X10	4X10	
TRUNK	B	D	

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.06	10.5	14	8	422	0.06	10.5	14	8	422	0.06	10.5	14	8	422	0.06	10.5	14	8
TRUNK B	0.07	10.5	14	8	424	0.07	10.5	14	8	424	0.07	10.5	14	8	424	0.07	10.5	14	8
TRUNK C	0.06	14.3	24	8	868	0.06	14.3	24	8	868	0.06	14.3	24	8	868	0.06	14.3	24	8
TRUNK D	0.08	9.8	12	8	384	0.08	9.8	12	8	384	0.08	9.8	12	8	384	0.08	9.8	12	8
TRUNK E	0.00	0	0	8	0	0.00	0	0	8	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK F	0.00	0	0	8	0	0.00	0	0	8	0	0.00	0	0	8	0	0.00	0	0	8

RETURN AIR #	1	2	3	4	5	6	BR
AIR VOLUME	110	155	155	110	340	175	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0
ACTUAL DUCT LGH	47	36	37	59	20	28	1
EQUIVALENT LENGTH	205	190	185	160	135	170	0
TOTAL EFFECTIVE LH	252	226	222	219	155	198	1
ADJUSTED PRESSURE	0.06	0.07	0.07	0.07	0.10	0.07	0
ROUND DUCT SIZE	6	7.2	7.2	6.3	8.9	7.5	0
INLET GRILL SIZE	8	8	8	8	8	8	0
INLET GRILL SIZE	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	14

TYPE: 5001 - THE HILLSBOROUGH
SITE NAME: PINE VALLEY & TESTON

LO # 77471
ELEVATION A

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</u> 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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>35.8</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE 65H	Location: BSMT		
<u>155.0</u> cfm	<u>3.0</u> sones		
☒ 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	Sones
ENS	QTXEN050C	50	✓ 0.3
BATH	QTXEN050C	50	✓ 0.3
ENS-4	QTXEN050C	50	✓ 0.3
W/R	QTXEN050C	50	✓ 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % 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:	January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations									
Formula Sheet (For Air Leakage / Ventilation Calculation)									
LO#: 77471		Model: 5001 - THE HILLSBOROUGH		Builder: GOLD PARK HOMES		Air Change & Delta T Data			
		Date: 2018-01-22							
Volume Calculation									
House Volume									
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)						
Bsmt	1693	9	15237						
First	1693	10	16930						
Second	1895	9	17055						
Third	0	9	0						
Fourth	0	9	0						
		Total:	49,222.0 ft³						
		Total:	1393.8 m³						
5.2.3.1 Heat Loss due to Air Leakage									
$HL_{air-b} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$									
0.330	x	387.17	x	42 °C	x	1.2	=	6471 W	
								=	22078 Btu/h
5.2.3.2 Heat Loss due to Mechanical Ventilation									
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$									
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h	
								=	578 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)									
$HL_{air-r} = Level Factor \times HL_{air-bv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agglevel} + HL_{bglevel})\}$									
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{c-level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)					
1	0.5	22,078	9,710	1.137					
2	0.3		15,297	0.433					
3	0.2		13,404	0.329					
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: 5001 - THE HILLSBOROUGH	ELEVATION A	BUILDER: GOLD PARK HOMES
SFQT: 3588	LO# 77471	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)	74

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):	49222.0	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:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	196.0 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	-

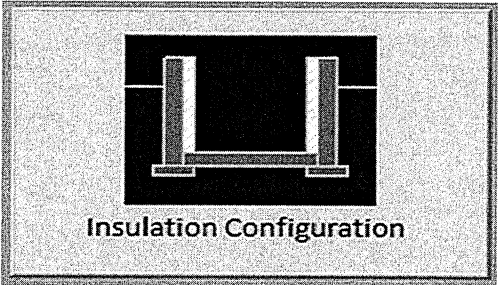
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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):	17.1	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.5	
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):	1977	

TYPE: 5001 - THE HILLSBOROUGH
LO# 77471

ELEVATION A

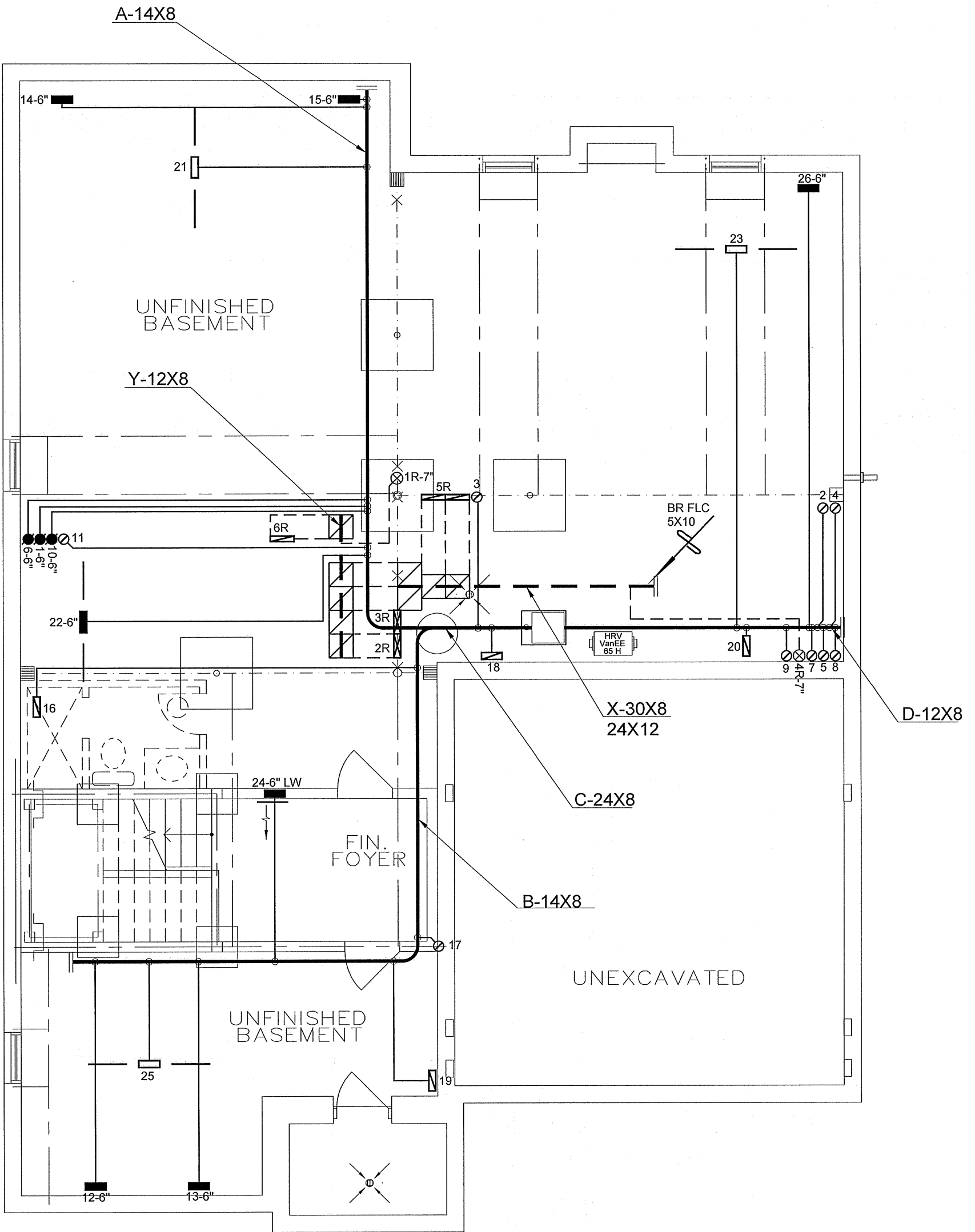
Air Infiltration Residential Load Calculator

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):	1393.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1858.0 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):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.114			

TYPE: 5001 - THE HILLSBOROUGH
LO# 77471

ELEVATION 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.

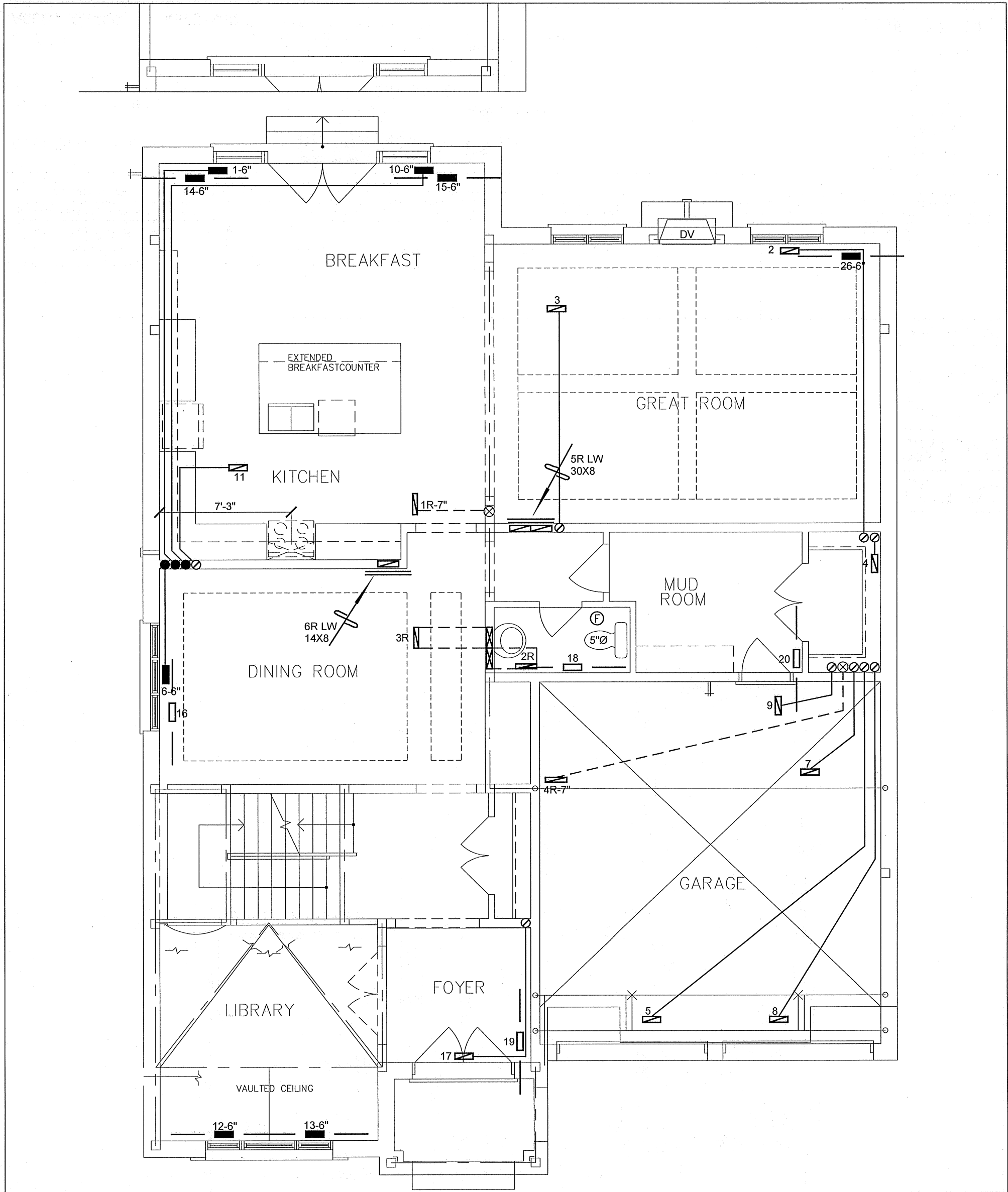
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

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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 64212 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO ELEVATION A THE HILLSBOROUGH 5001 3588 sqft			MAKE LENNOX		3RD FLOOR			BASEMENT HEATING LAYOUT	
			MODEL EL296UH090XE48C		2ND FLOOR				
			INPUT 88 MBTU/H		1ST FLOOR				
			OUTPUT 85 MBTU/H		BASEMENT			Date	JAN/2018
			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 1255 cfm @ 0.6" w.c.						BCIN# 19669		LO#	77471



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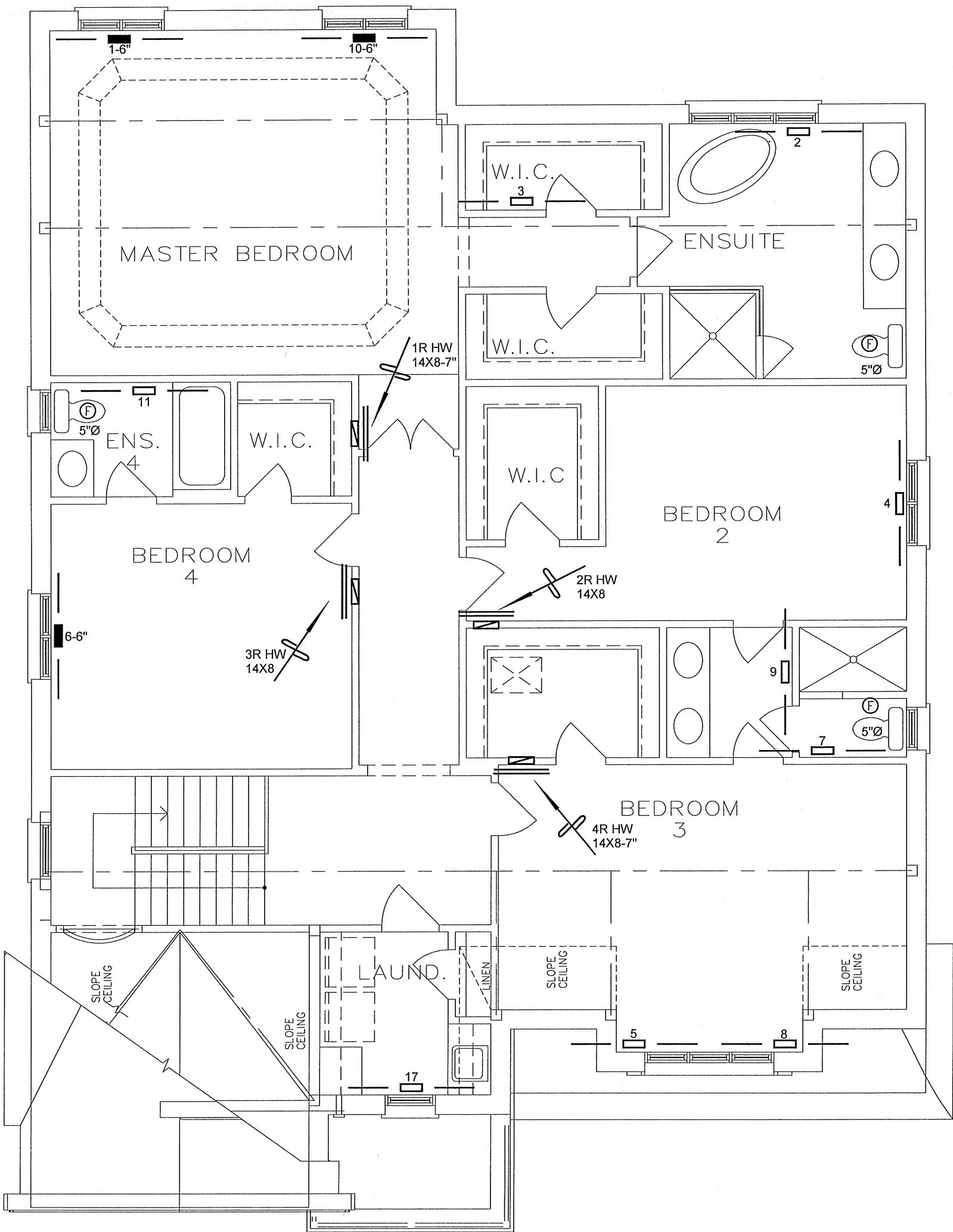
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
ELEVATION A			BCIN# 19669	
THE HILLSBOROUGH			LO#	77471
5001	3588 sqft			



I MICHAEL O'ROURKE HAVE REVIEWED 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.

CSA-F280-12
PACKAGE A1

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

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
ELEVATION A			BCIN# 19669	
THE HILLSBOROUGH			LO#	77471
5001	3588 sqft			