

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: 4203- THE FORESTCREST OPT. 5 BED 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.				
January 24, 2018		 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY & TESTON TYPE: 4203- THE FORESTREST DATE: Jan-18 WINTER NATURAL AIR CHANGE RATE 0.340 CSA-F280-12
BUILDER: GOLD PARK HOMES OPT. 5 BED LO# 77468 SUMMER NATURAL AIR CHANGE RATE 0.124 SB-12 PACKAGE A 1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	HIS	BED-2	BED-3	BED-4	ENS-3	BED-5	ENS-3	ENS-4	HRS
GRS.WALL AREA	216		216	333	63	144	297	432	54	108	81	72	54
GLAZING	0	0	0	0	0	18	383	303	0	0	0	0	0
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	25.7	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	169	754	157	312	1392	289	63	281	58	128	68
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	320	411	204	280	359	179	91	117	58	292	323
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SUB TOTAL HT LOSS	2165		2165	2199	398	117	1259	580	3116	1000	752	940	410
SUB TOTAL HT GAIN	2353		2353	1358	117	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31
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	0.20
AIR CHANGE HEAT LOSS	675		675	685	124	395	977	1037	145	312	234	253	128
AIR CHANGE HEAT GAIN	259		259	149	13	64	335	343	0	72	99	123	84
DUCT LOSS	0		0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0		0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		240	0	0	1	240	1	240	1	240	0	0
HEAT GAIN APPLIANCES/LIGHTS	695		695	0	0	695	695	695	614	695	0	0	0
TOTAL HT LOSS BTU/H	2840		2840	2884	522	1664	4521	4365	614	1312	1085	1356	538
TOTAL HT GAIN x 1.3 BTU/H	4923		4923	4950	8055	1767	462	5712	1075	2159	464	1213	194

ROOM USE	EXP. WALL	CLG. HT.	DIN	LIV	KT/IGT	STUDY	LAUN	PWD	FOY	MUD	BAS
GRS.WALL AREA	132		132	420	869	110	0	66	551	312	1386
GLAZING	32	681	32	538	0	0	0	0	0	0	4
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	85
EAST	21.3	42.4	0	0	0	0	0	0	0	0	67
SOUTH	21.3	25.7	0	0	0	0	0	0	0	0	0
WEST	21.3	42.4	0	0	0	0	0	0	0	0	4
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	85
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	103
NET EXPOSED WALL	4.5	0.9	100	446	751	90	0	66	51	20	170
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	339
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SUB TOTAL HT LOSS	1127		1127	3415	5942	827	320	295	3584	1808	5765
SUB TOTAL HT GAIN	631		631	2373	4856	0.30	0.45	0.30	0.45	0.30	0.50
LEVEL FACTOR / MULTIPLIER	0.30	0.45	0.30	0.45	0.30	0.45	0.20	0.30	0.45	0.20	1.31
AIR CHANGE HEAT LOSS	508		508	1539	2677	373	100	133	1615	815	12766
AIR CHANGE HEAT GAIN	69		69	261	545	66	42	7	82	41	116
DUCT LOSS	0		0	0	0	0	0	0	0	0	0
DUCT GAIN	0		0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		240	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	695		695	695	695	695	695	695	695	695	695
TOTAL HT LOSS BTU/H	1635		1635	4954	8619	1200	462	427	5200	2623	22531
TOTAL HT GAIN x 1.3 BTU/H	1814		1814	4328	8055	1767	1176	88	1075	1446	2431

TOTAL HEAT GAIN BTU/H: 48278 TONS: 4.02 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 6932 TOTAL COMBINED HEAT LOSS BTU/H: 72632

GFA: 3688 IO# 77468

EL296UH090XE48C
FAN SPEED
LOW 0

r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

Run#	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
	Room Name	MBR	ENS	ENS	BED-2	BED-3	BED-4	HERS	ENS-5	ENS-3	MBR	ENS-4	DIN	LIV	KT/GT	KT/GT	STUDY	LAUN	PWD	FYO	MUD	BAS	BAS	BAS	BAS
	RM LOSS MBH	1.42	1.44	1.44	1.66	2.26	2.18	0.54	1.08	1.08	1.42	1.36	1.64	2.48	2.87	2.87	1.20	0.46	0.43	5.20	2.62	4.51	4.51	4.51	4.51
	CFM PER RUN HEAT	31	32	32	37	50	48	12	31	24	31	30	36	54	63	63	26	11	9	114	58	99	99	99	99
	RM GAIN MBH	2.46	0.98	0.98	2.05	3.08	2.86	0.19	0.43	0.46	2.46	1.21	1.81	2.16	2.68	2.68	1.77	1.18	0.09	1.08	1.45	0.49	0.49	0.49	0.49
	CFM PER RUN COOLING	79	31	31	66	99	91	6	14	15	79	39	58	69	86	86	57	38	3	34	46	16	16	16	16
	ADJUSTED PRESSURE	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	0.16	0.16	0.17	0.17	0.17	0.15	0.17	0.16	0.16	0.16	0.16
	ACTUAL DUCT LGH	46	62	72	29	47	64	35	53	42	41	42	8	28	57	49	35	32	43	55	8	48	33	24	46
	EQUIVALENT LENGTH	130	160	140	160	190	170	140	180	190	130	120	90	150	130	120	140	110	140	120	130	130	150	110	110
	TOTAL EFFECTIVE LENGTH	176	222	212	189	197	234	175	233	232	171	162	98	178	187	169	175	142	183	175	138	178	174	156	156
	ADJUSTED PRESSURE	0.1	0.08	0.08	0.09	0.08	0.07	0.1	0.07	0.07	0.1	0.11	0.18	0.1	0.09	0.1	0.1	0.12	0.09	0.09	0.12	0.09	0.13	0.09	0.1
	ROUND DUCT SIZE	5	4	4	5	6	6	4	4	5	4	4	4	5	5	5	5	4	4	6	4	6	5	6	6
	HEATING VELOCITY (ft/min)	228	367	367	272	255	245	138	149	275	228	344	413	396	463	463	191	115	103	581	665	505	727	505	505
	COOLING VELOCITY (ft/min)	580	356	356	485	505	464	69	161	172	580	447	665	507	631	631	419	436	34	173	528	82	117	82	82
	OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10
	TRUNK	C	A	A	D	C	B	E	A	C	E	C	D	B	A	A	A	C	B	B	E	A	E	B	B

RUN #	25	26	27	28	29	30	31
ROOM NAME	BED-3	BED-4	KT/GT	LIV	HIS	BAS	BED-5
RM LOSS MBH.	2.26	2.18	2.87	2.48	0.52	4.51	1.31
CFM PER RUN HEAT	50	48	63	54	11	99	29
RM GAIN MBH.	3.08	2.86	2.68	2.16	0.17	0.49	2.16
CFM PER RUN COOLING	99	91	86	69	5	16	69
ADJUSTED PRESSURE	0.16	0.16	0.16	0.17	0.17	0.16	0.17
ACTUAL DUCT LGH.	49	66	41	31	73	12	60
EQUIVALENT LENGTH	170	130	90	130	180	120	180
TOTAL EFFECTIVE LENGTH	219	131	131	161	253	132	240
ADJUSTED PRESSURE	0.07	0.08	0.12	0.11	0.07	0.12	0.07
ROUND DUCT SIZE	6	6	5	5	4	5	5
HEATING VELOCITY (ft/min)	255	245	463	396	126	727	213
COOLING VELOCITY (ft/min)	505	464	631	507	57	117	507
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	B	C	B	A	D	A

SUPPLY AIR TRUNK SIZE					RETURN AIR TRUNK SIZE				
TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A 368	0.07	10	12	8					
TRUNK B 525	0.07	11.4	16	8	TRUNK G 0	0.00	0	0	8
TRUNK C 1151	0.07	15	26	8	TRUNK H 0	0.00	0	0	8
TRUNK D 172	0.09	7	6	8	TRUNK I 0	0.00	0	0	8
TRUNK E 1351	0.07	16.2	30	8	TRUNK J 0	0.00	0	0	8
TRUNK F 1000	0.00	6	10	8	TRUNK K 0	0.00	0	0	8
					TRUNK L 0	0.00	0	0	8
					TRUNK M 0	0.06	0	0	8
					TRUNK N 0	0.06	0	0	8
					TRUNK O 0	0.06	0	0	8
					TRUNK P 0	0.06	0	0	8
					TRUNK Q 0	0.06	0	0	8
					TRUNK R 0	0.06	0	0	8
					TRUNK S 0	0.06	0	0	8

[illegible]

TYPE: 4203- THE FORESTCREST
SITE NAME: PINE VALLEY & TESTON

LO # 77468
OPT. 5 BED

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	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	7 @ 10.6 cfm	74.2 cfm
Other Rooms	7 @ 10.6 cfm	74.2 cfm
Table 9.32.3.A.	TOTAL	233.2 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
TOTAL		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	233.2	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	78.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 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	HVI
ENS	QTXEN050C	50	☒
ENS-5	QTXEN050C	50	☒
ENS-4	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

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:	January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations									
Formula Sheet (For Air Leakage / Ventilation Calculation)									
LO#: 77468		Model: 4203- THE FORESTCREST		Builder: GOLD PARK HOMES		Date: 01/24/2018			
Air Change & Delta T Data									
House Volume				Design Temperature Difference					
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Tin °C		Tout °C		ΔT °C	
Bsmt	1728	10	17280	22		-20		42	
First	1728	11	19008	22		31		9	
Second	2103	9	18927						
Third	0	9	0						
Fourth	0	9	0						
Total:			55,215.0 ft³						
Total:			1563.5 m³						
6.2.6 Sensible Gain due to Air Leakage									
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$									
0.340	x	434.31	x	42 °C	x	1.2	=	7483 W	
								=	25532 Btu/h
6.2.7 Sensible heat Gain due to Ventilation									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$									
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h	
								=	661 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)									
$HL_{qirr} = Level Factor \times HL_{qirbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$									
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	25,532		9,765		1.307			
2	0.3			16,999		0.451			
3	0.2			16,382		0.312			
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: 4203- THE FORESTCREST	OPT. 5 BED	BUILDER: GOLD PARK HOMES
SFQT: 3688	LO# 77468	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):	55215.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 66.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	198.0 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	-

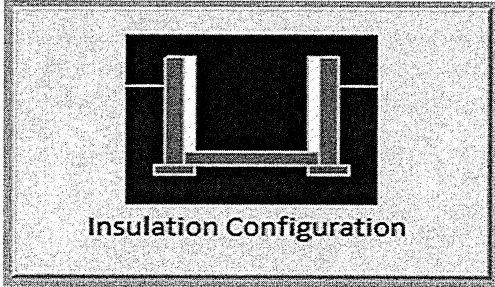
INDIVIDUAL BCIN: 19669

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):	20.1	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
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):		1987

TYPE: 4203- THE FORESTCREST
LO# 77468

OPT. 5 BED

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

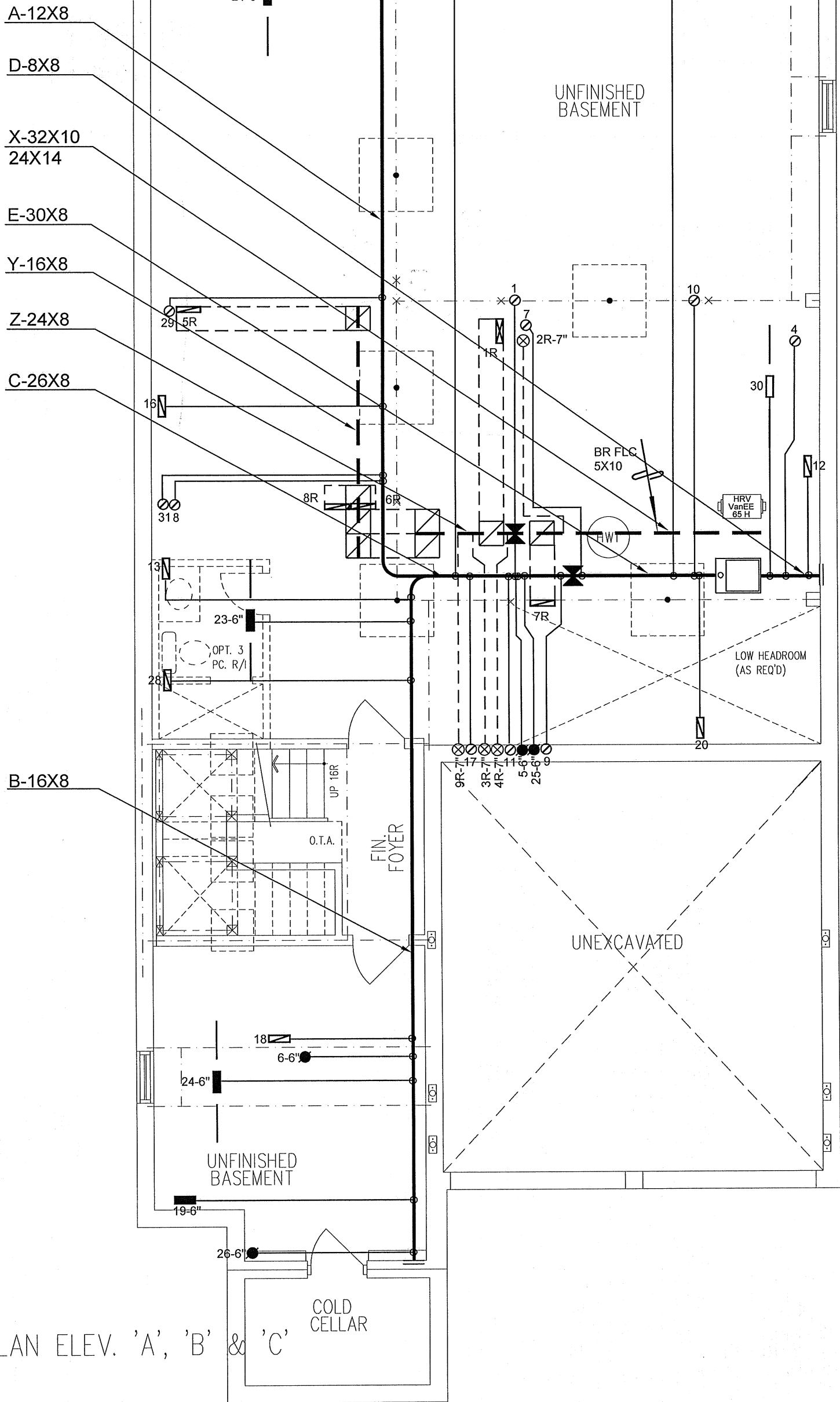
Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1563.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2084.2 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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4203- THE FORESTCREST
LO# 77468

OPT. 5 BED

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, BCIN# 19669
HVAC DESIGNS LTD.



BASEMENT PLAN ELEV. 'A', 'B' & 'C'

HVAC LEGEND						
						3.
	SUPPLY AIR GRILLE		DESCRIPTION		DESCRIPTION	2.
	SUPPLY AIR GRILLE 6" BOOT		6" SUPPLY AIR BOOT ABOVE		RETURN AIR STACK ABOVE	1.
	SUPPLY AIR BOOT ABOVE		SUPPLY AIR STACK FROM 2ND FLOOR		RETURN AIR STACK 2ND FLOOR	No.
	6" SUPPLY AIR STACK 2ND FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	
REVISIONS						

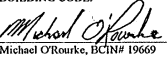
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Client	HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply 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.	HEAT LOSS 72532 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GOLD PARK HOMES		MAKE LENNOX	3RD FLOOR					BASEMENT	
Project Name		MODEL EL296UH090XE48C	2ND FLOOR		16	5	6	HEATING	
PINE VALLEY & TESTON VAUGHAN, ONTARIO		INPUT 88 MBTU/H	1ST FLOOR		10	4	2	LAYOUT	
OPT. 5 BED		OUTPUT 85 MBTU/H	BASEMENT		5	1	0	Date	JAN/2018
THE FORESTCREST	COOLING 4.0 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						Scale	3/16" = 1'-0"
4203	FAN SPEED 1525 cfm @ 0.6" w.c.							BCIN# 19669	
3688 sqft								LO#	77468

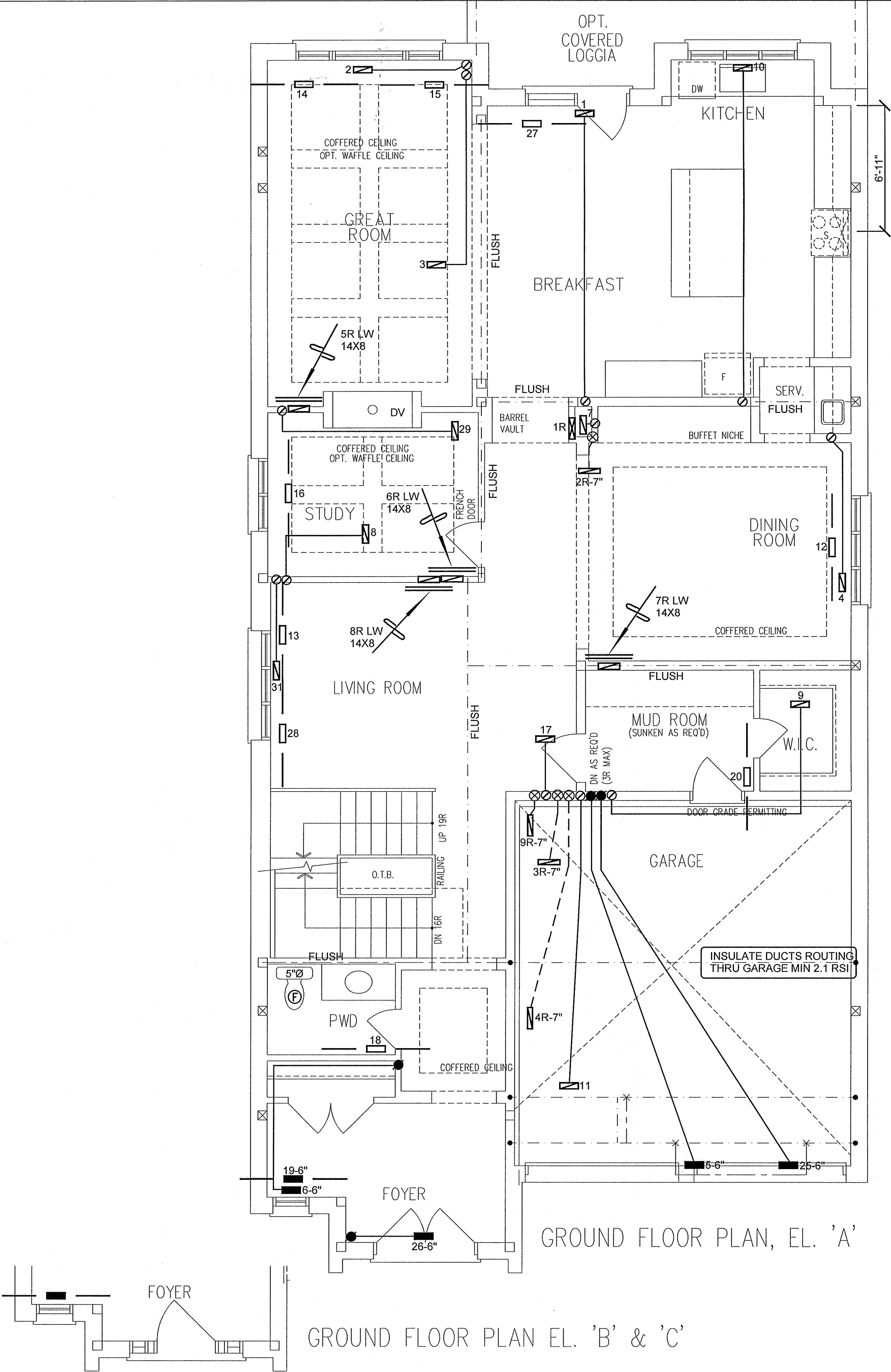
CSA-F280-12

PACKAGE A1

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, BCIN# 19669
HVAC DESIGNS LTD.

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



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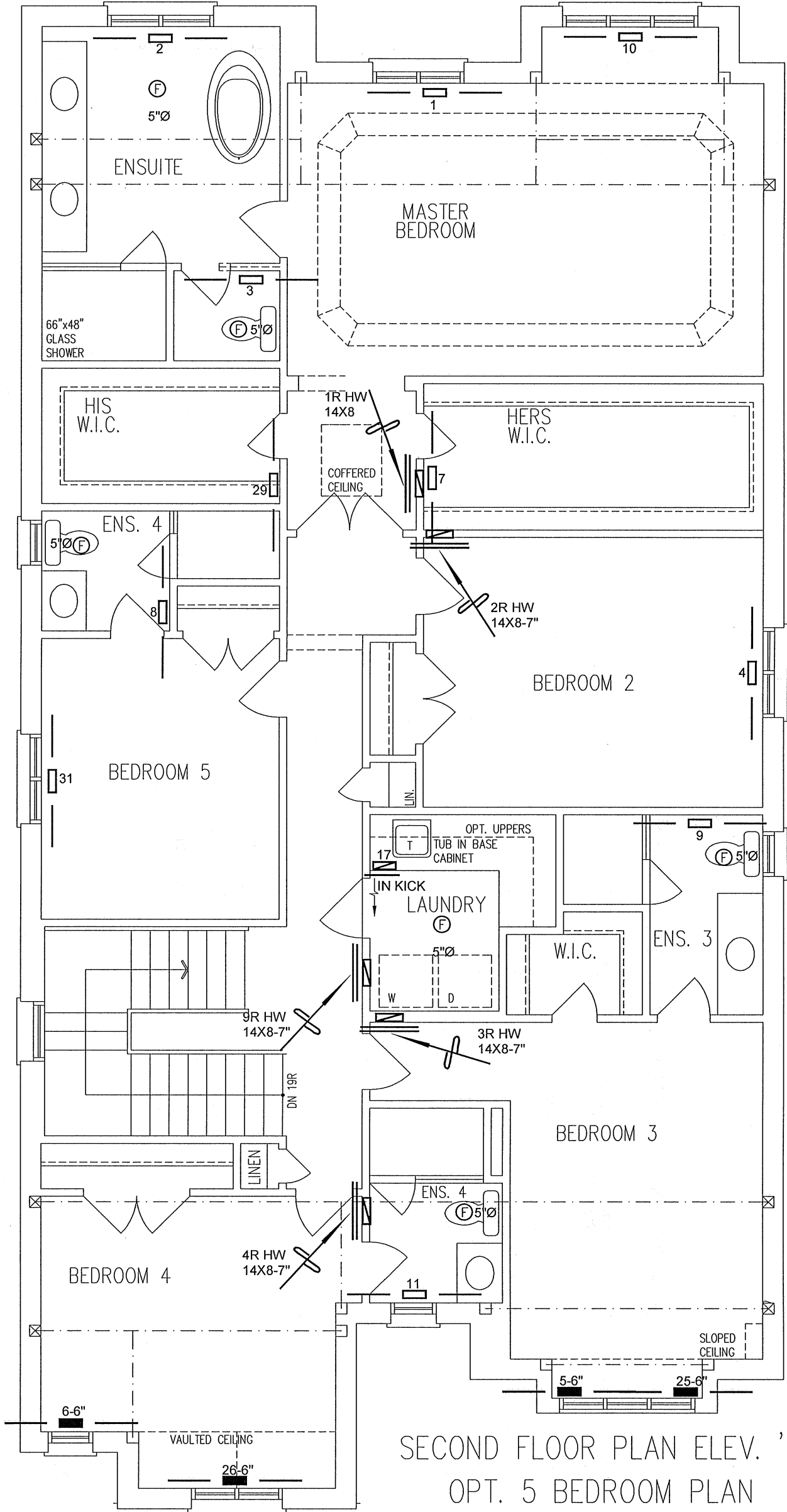
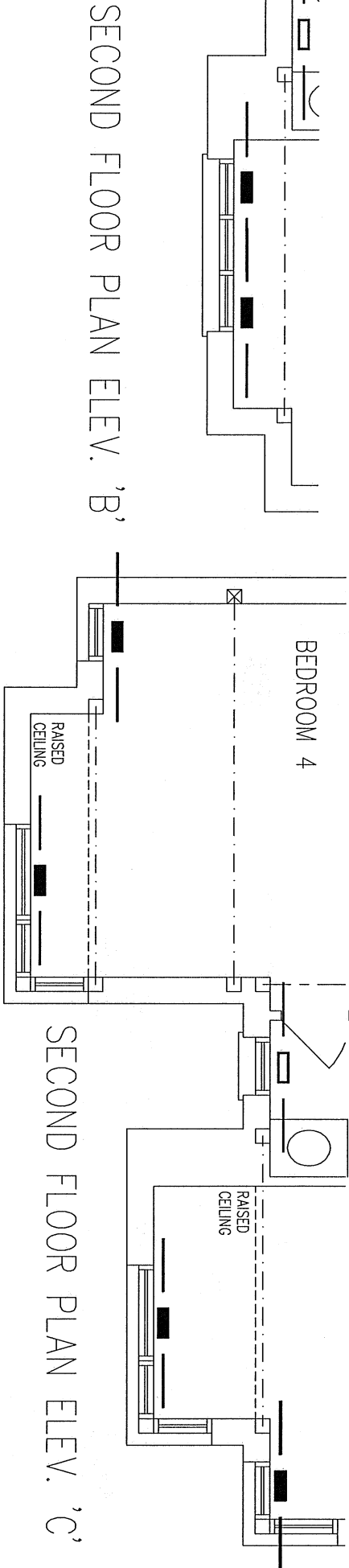
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name		Installation 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.	Date	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JAN/2018	
OPT. 5 BED			Scale	
THE FORESTCREST			3/16" = 1'-0"	
4203			BCIN# 19669	
3688 sqft		LO#		77468

CSA-F280-12
PACKAGE A1

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.

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



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Client
GOLD PARK HOMES

Project Name
**PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT. 5 BED
THE FORESTCREST
4203**

3688 sqft

HVAC DESIGNS LTD.

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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
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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# **77468**