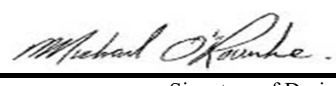


Schedule 1: Designer Information

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 ☐ 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: 4202- ROSEDALE OPT. 5 BED - OPT SERV STAIR 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.			
February 28, 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.

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

SITE NAME: PINE VALLEY & TESTON										OPT. 5 BED - OPT SERV STAIR										DATE: Feb-20				WINTER NATURAL AIR CHANGE RATE 0.340										HEAT LOSS ΔT °F. 76				CSA-F280-12																																					
BUILDER: GOLD PARK HOMES										TYPE: 4202-ROSEDALE										GFA: 3700				LO# 85451				SUMMER NATURAL AIR CHANGE RATE 0.124										HEAT GAIN ΔT °F. 16				SB-12 PACKAGE A1																																	
ROOM USE				MBR				ENS				BED-2				BED-3				BED-4				ENS-2				BED-5				ENS-3				ENS-4/5																																							
EXP. WALL				34				37				12				36				16				0				13				9				6																																							
CLG. HT.				10				9				9				9				9				9				9				9				9																																							
FACTORS																																																																											
GRS.WALL AREA				340				333				108				324				144				0				117				81				54																																							
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN																																							
NORTH				21.3	16.8	0	0	0	0	0	0	0	18	383	303	0	0	0	0	0	0	0	0	0	0	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	53	1128	2247	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
WEST				21.3	42.4	54	1149	2289	18	383	763	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
NET EXPOSED WALL				4.5	0.9	286	1276	265	315	1406	292	90	402	83	271	1209	251	106	473	98	0	0	0	99	442	92	72	321	67	54	241	50																																											
NET EXPOSED BSMT WALL ABOVE GR				3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
EXPOSED CLG				1.3	0.6	285	366	182	210	270	134	228	293	146	280	359	179	240	308	153	104	133	66	182	234	116	45	58	29	84	108	54																																											
NO ATTIC EXPOSED CLG				2.7	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
EXPOSED FLOOR				2.6	0.5	0	0	0	0	0	0	144	367	76	280	714	148	0	0	0	104	265	55	0	0	0	45	115	24	0	0	0	0	0	0																																								
BASEMENT/CRAWL HEAT LOSS												0								0								0																																															
SLAB ON GRADE HEAT LOSS												0								0								0																																															
SUBTOTAL HT LOSS				2791								2058								1445								3411								1590								399								1058								685								349							
SUB TOTAL HT GAIN				2736								1189								608								2825								1230								122								671								271								104							
LEVEL FACTOR / MULTIPLIER				0.20	0.29							0.20	0.29							0.20	0.29							0.20	0.29							0.20	0.29							0.20	0.29																														
AIR CHANGE HEAT LOSS				813								600								421								994								463								116								308								200								102							
AIR CHANGE HEAT GAIN				302								131								67								312								136								13								74								30								11							
DUCT LOSS				0								0								187								440								0								51								0								89								0							
DUCT GAIN				0								0								190								436								0								13								0								30								0							
HEAT GAIN PEOPLE				240	2	480	0							1	240	1	240	1	240	0	0	1	240	0	1	240	0	0	0	0	0	0	0	0	0	0																																							
HEAT GAIN APPLIANCES/LIGHTS				985								0								985								985								985								0								985								0								0							
TOTAL HT LOSS BTU/H				3605								2658								2052								4845								2053								566								1367								974								450							
TOTAL HT GAIN x 1.3 BTU/H				5854								1717								2716								6237								3367								193								2561								430								150							

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

OPT. 5 BED - OPT SERV STAIR
TYPE: 4202- ROSEDALE

DATE: Feb-20

GFA: 3700

LO# 85451

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 67,848 TOTAL HEAT GAIN 47,357
AIR FLOW RATE CFM 22.48 AIR FLOW RATE CFM 32.2

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

^ΔLENNOX
EL296UH090XE48C

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	9	6
R/A	0	0	6	2	1

plenium pressure s/a 0.18 r/a pressure 0.17
max s/a dif press. loss 0.03 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.15 adjusted pressure r/a 0.15

FAN SPEED 90
LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

DESIGN CFM = 1525
CFM @ .6" E.S.P.

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	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	ENS	BED-2	BED-3	BED-5	ENS-2	LAUN	ENS-3	MBR	BED-4	DIN	KT/GT	KT/GT	KT/GT	KT/GT	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.80	1.33	1.33	2.05	1.62	1.37	0.57	1.65	0.97	1.80	2.05	2.08	2.89	2.89	2.89	2.89	1.27	3.01	1.96	3.71	3.71	3.71	3.71
CFM PER RUN HEAT	41	30	30	46	36	31	13	37	22	41	46	47	65	65	65	65	28	68	44	83	83	83	83
RM GAIN MBH	2.93	0.86	0.86	2.72	2.08	2.56	0.19	2.27	0.43	2.93	3.37	2.75	2.86	2.86	2.86	2.86	0.26	0.61	0.40	0.55	0.55	0.55	0.55
CFM PER RUN COOLING	94	28	28	87	67	82	6	73	14	94	108	88	92	92	92	92	8	20	13	18	18	18	18
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	62	53	61	60	49	25	48	55	48	67	23	10	43	47	46	57	22	42	24	45	50	13	36
EQUIVALENT LENGTH	160	150	130	190	150	140	190	190	160	180	190	150	130	130	130	130	160	150	110	120	110	120	130
TOTAL EFFECTIVE LENGTH	222	203	191	250	199	165	238	245	208	247	213	160	173	177	176	187	182	192	134	165	160	133	166
ADJUSTED PRESSURE	0.07	0.08	0.09	0.06	0.09	0.1	0.07	0.07	0.08	0.07	0.07	0.1	0.09	0.09	0.09	0.09	0.09	0.09	0.13	0.1	0.1	0.12	0.1
ROUND DUCT SIZE	6	4	4	6	5	6	4	5	4	6	6	6	6	6	6	6	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	209	344	344	235	264	158	149	272	252	209	235	240	331	331	331	331	321	499	505	609	609	609	609
COOLING VELOCITY (ft/min)	479	321	321	444	492	418	69	536	161	479	551	449	469	469	469	469	92	147	149	132	132	132	132
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	A	A	E	E	C	E	D	E	C	E	C	A	A	B	B	E	D	C	A	B	C	D

RUN #	25	26	27	28	30	31	32	33
ROOM NAME	BED-3	LAUN	BAS	FOY	WIC	BED-3	BAS	ENS-4/5
RM LOSS MBH	1.62	1.65	3.71	3.01	0.80	1.62	3.71	0.45
CFM PER RUN HEAT	36	37	83	68	18	36	83	10
RM GAIN MBH	2.08	2.27	0.55	0.61	0.24	2.08	0.55	0.15
CFM PER RUN COOLING	67	73	18	20	8	67	18	5
ADJUSTED PRESSURE	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17
ACTUAL DUCT LGH	45	57	33	40	53	58	22	39
EQUIVALENT LENGTH	140	150	180	150	180	160	120	140
TOTAL EFFECTIVE LENGTH	185	207	213	190	233	218	142	179
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.07	0.08	0.11	0.1
ROUND DUCT SIZE	5	5	6	5	4	5	5	4
HEATING VELOCITY (ft/min)	264	272	423	499	207	264	609	115
COOLING VELOCITY (ft/min)	492	536	92	147	92	492	132	57
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	C	E	C	C

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK A	273	0.08	8.6	8	x	8
TRUNK B	213	0.09	7.6	10	x	8
TRUNK C	884	0.07	13.8	22	x	8
TRUNK D	376	0.07	10.1	12	x	8
TRUNK E	639	0.06	12.7	18	x	8
TRUNK F	0	0.00	0	0	x	8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8
TRUNK P	0	0.06	0	0	x	8
TRUNK Q	0	0.06	0	0	x	8
TRUNK R	0	0.06	0	0	x	8
TRUNK S	0	0.06	0	0	x	8
TRUNK T	0	0.06	0	0	x	8
TRUNK U	0	0.06	0	0	x	8
TRUNK V	0	0.06	0	0	x	8
TRUNK W	0	0.06	0	0	x	8

RETURN AIR #	1	2	3	4	5	6	7	8	0	0	0	0	0	0	0	BR
AIR VOLUME	130	130	130	130	360	300	50	50	0	0	0	0	0	0	0	245
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
ACTUAL DUCT LGH	61	69	49	53	30	52	60	57	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	175	165	145	185	185	140	205	205	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	236	234	194	238	215	192	265	262	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.06	0.06	0.08	0.06	0.07	0.08	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	7	7	6.5	7	9.9	8.9	4.9	4.9	0	0	0	0	0	0	0	8
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	30	14	14	0	0	0	0	0	0	0	24

TRUNK X	1165	0.06	16	32	x	8	655
TRUNK Y	430	0.06	11	14	x	8	553
TRUNK Z	920	0.06	14.6	24	x	8	690
DROP	1525	0.06	17.7	24	x	14	654

TYPE: 4202- ROSEDALE
SITE NAME: PINE VALLEY & TESTON

LO # 85451
OPT. 5 BED - OPT SERV STAIR

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>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm <u>63.6</u> cfm	
Other Rooms	<u>4</u> @ 10.6 cfm <u>42.4</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	95.4 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	HVI
ENS	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
ENS-4/5	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

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 @ 32 deg F (0 deg C)	☒ HVI Approved	

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:	February-20

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 85451	Model: 4202- ROSEDALE	Builder: GOLD PARK HOMES	Date: 2/28/2020																																																									
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <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>1647</td> <td>10</td> <td>16470</td> </tr> <tr> <td>First</td> <td>1647</td> <td>11</td> <td>18117</td> </tr> <tr> <td>Second</td> <td>2076</td> <td>9</td> <td>18684</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>53,271.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>1508.5 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1647	10	16470	First	1647	11	18117	Second	2076	9	18684	Third	0	9	0	Fourth	0	9	0	Total:			53,271.0 ft³	Total:			1508.5 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%; text-align: center;">0.340</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.124</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td style="text-align: center;">22</td> <td style="text-align: center;">-20</td> <td style="text-align: center;">42</td> <td style="text-align: center;">76</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">22</td> <td style="text-align: center;">31</td> <td style="text-align: center;">9</td> <td style="text-align: center;">16</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.340	SUMMER NATURAL AIR CHANGE RATE	0.124	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	76	Summer DTDc	22	31	9	16
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.340 x 419.02 x 42 °C x 1.2 = 7219 W = 24633 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.124 x 419.02 x 9 °C x 1.2 = 547 W = 1868 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h			$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 16 °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)																																																												
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4202- ROSEDALE	OPT. 5 BED - OPT SERV STAIR	BUILDER: GOLD PARK HOMES
SFQT: 3700	LO# 85451	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 (ft ³):	53271.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.65	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 68.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	202.0 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	-

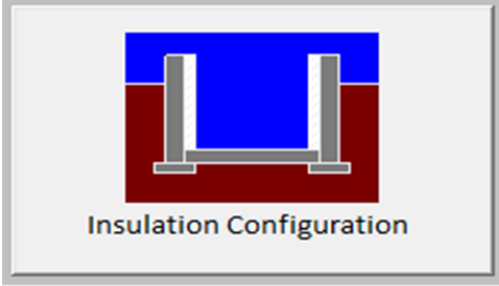
INDIVIDUAL BCIN: 19669

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):	20.7	 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):	1.9	
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):		2028

TYPE: 4202- ROSEDALE
LO# 85451

OPT. 5 BED - OPT SERV STAIR

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):	1508.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2010.8 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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4202- ROSEDALE
LO# 85451

OPT. 5 BED - OPT SERV STAIR

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

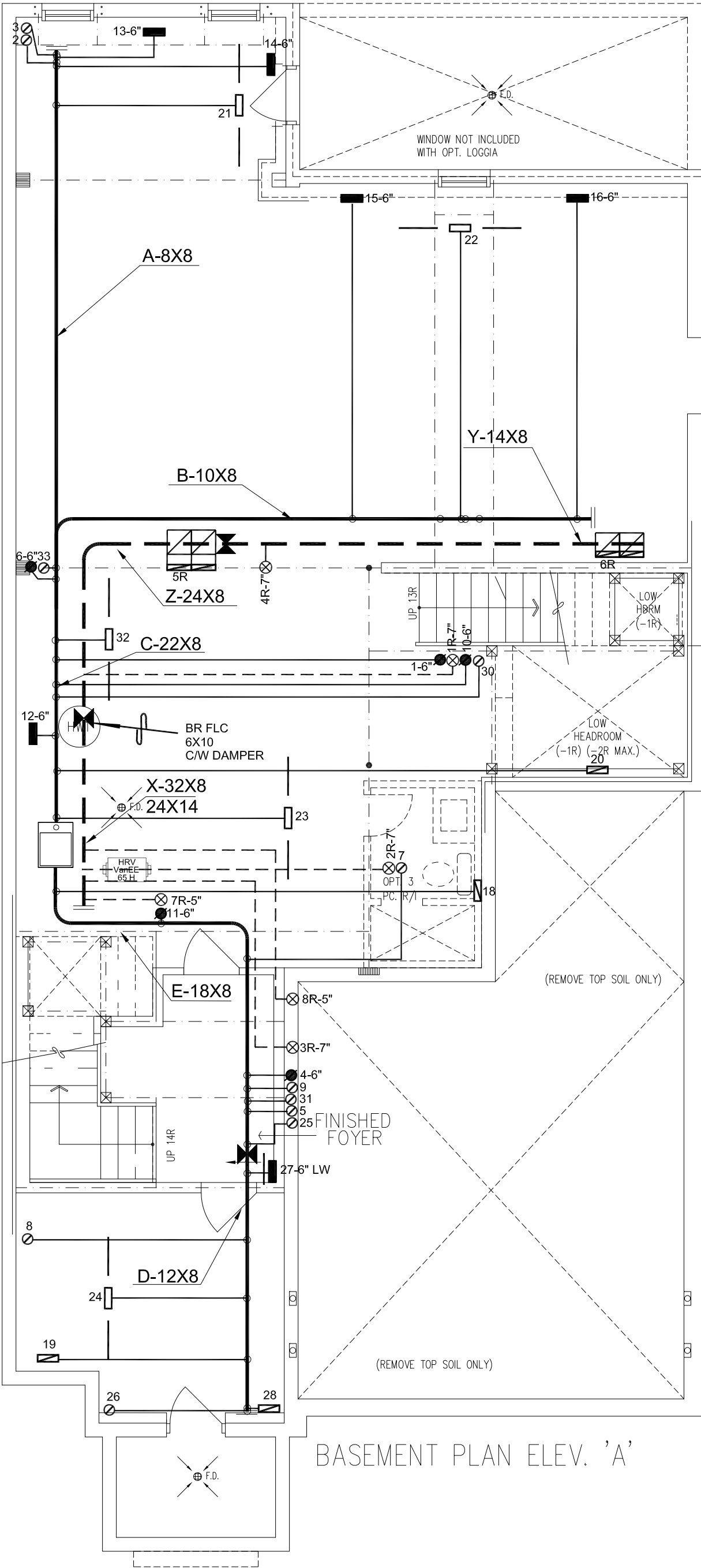
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6\"/>		14-x6\"/>		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6\"/>		SUPPLY AIR STACK FROM 2nd FLOOR		30-x8\"/>		RETURN AIR STACK 2nd FLOOR	No.	Date
	SUPPLY AIR BOOT ABOVE		6\"/>		FRA-FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

HVAC LEGEND

333

PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' - L.O.D. COND.

PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' - W.O.D. COND.



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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@hvacadesigns.ca Web: www.hvacadesigns.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 71029 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	16	6	5	
PINE VALLEY & TESTON VAUGHAN, ONTARIO		INPUT 88 MBTU/H		1ST FLOOR	9	2	2	Date FEB/2020
OPT SERV STAIR ROSEDALE - OPT 5 BED 4202 3700 sqft		OUTPUT 85 MBTU/H		BASEMENT	6	1	0	Scale 3/16" = 1'-0"
	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			BCIN# 19669		
	FAN SPEED 1525 cfm @ 0.6" w.c.					LO#	85451	

CSA-F280-12

PACKAGE A1

WOD

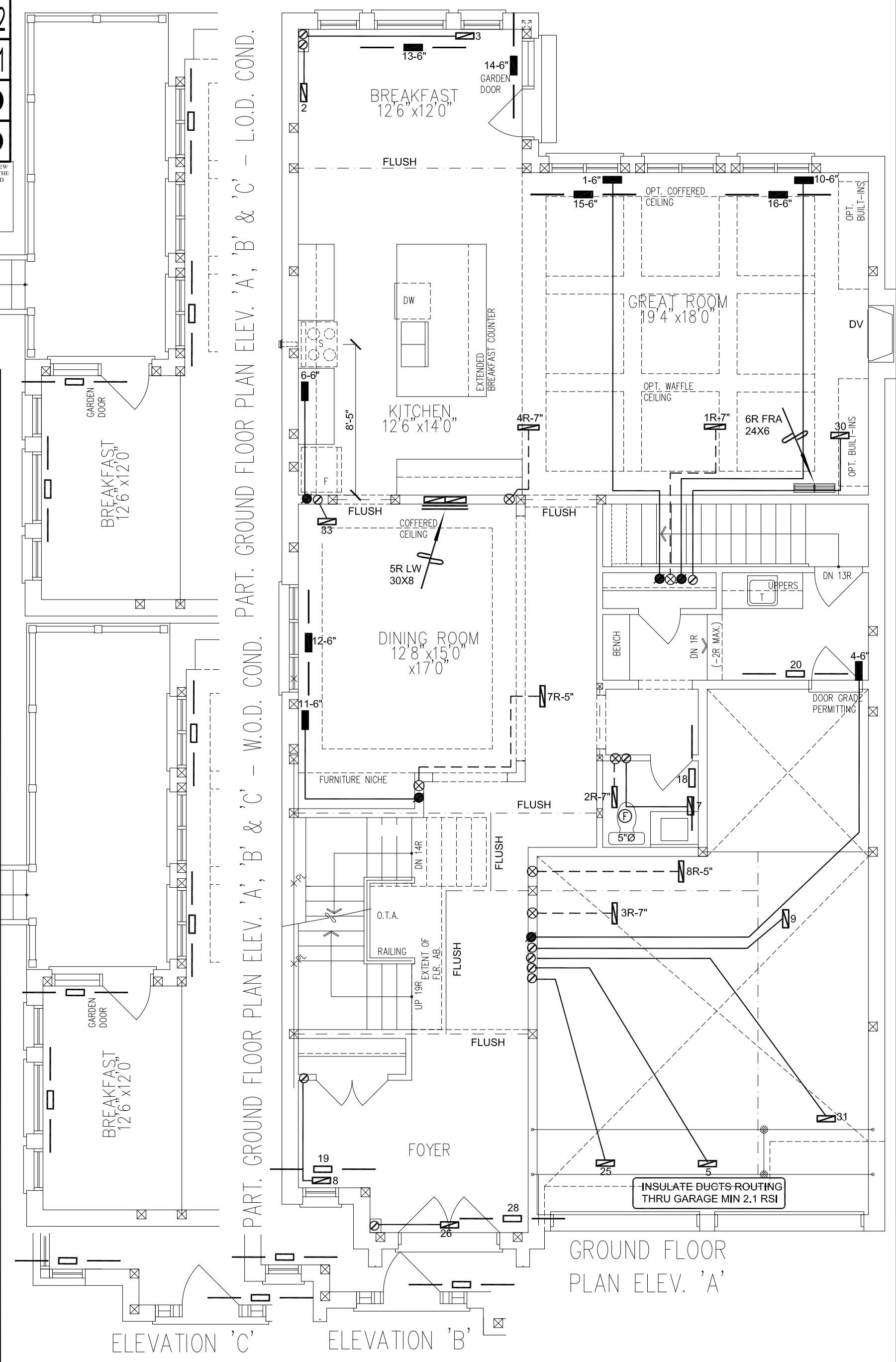
LOD

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.

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	HVAC LEGEND		
				SYMBOL	DESCRIPTION	SYMBOL
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		SUPPLY AIR STACK FROM 2nd FLOOR	
	SUPPLY AIR GRILLE 6" BOOT		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	
	RETURN AIR GRILLE		RETURN AIR STACK ABOVE		REDUCER	
	RETURN AIR STACK 2nd FLOOR		RETURN AIR STACK 2nd FLOOR		RETURN AIR STACK 2nd FLOOR	
REVISIONS				REVISIONS		
Description				Description		
Date				Date		
1.				2.		
3.				3.		



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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT SERV STAIR
ROSEDALE - OPT 5 BED
4202 3700 sqft

HVACDESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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

FIRST FLOOR
HEATING
LAYOUT

Date

FEB/2020

Scale

3/16" = 1'-0"

BCIN# 19669

LO# 85451

CSA-F280-12

PACKAGE A1

WOD

LOD

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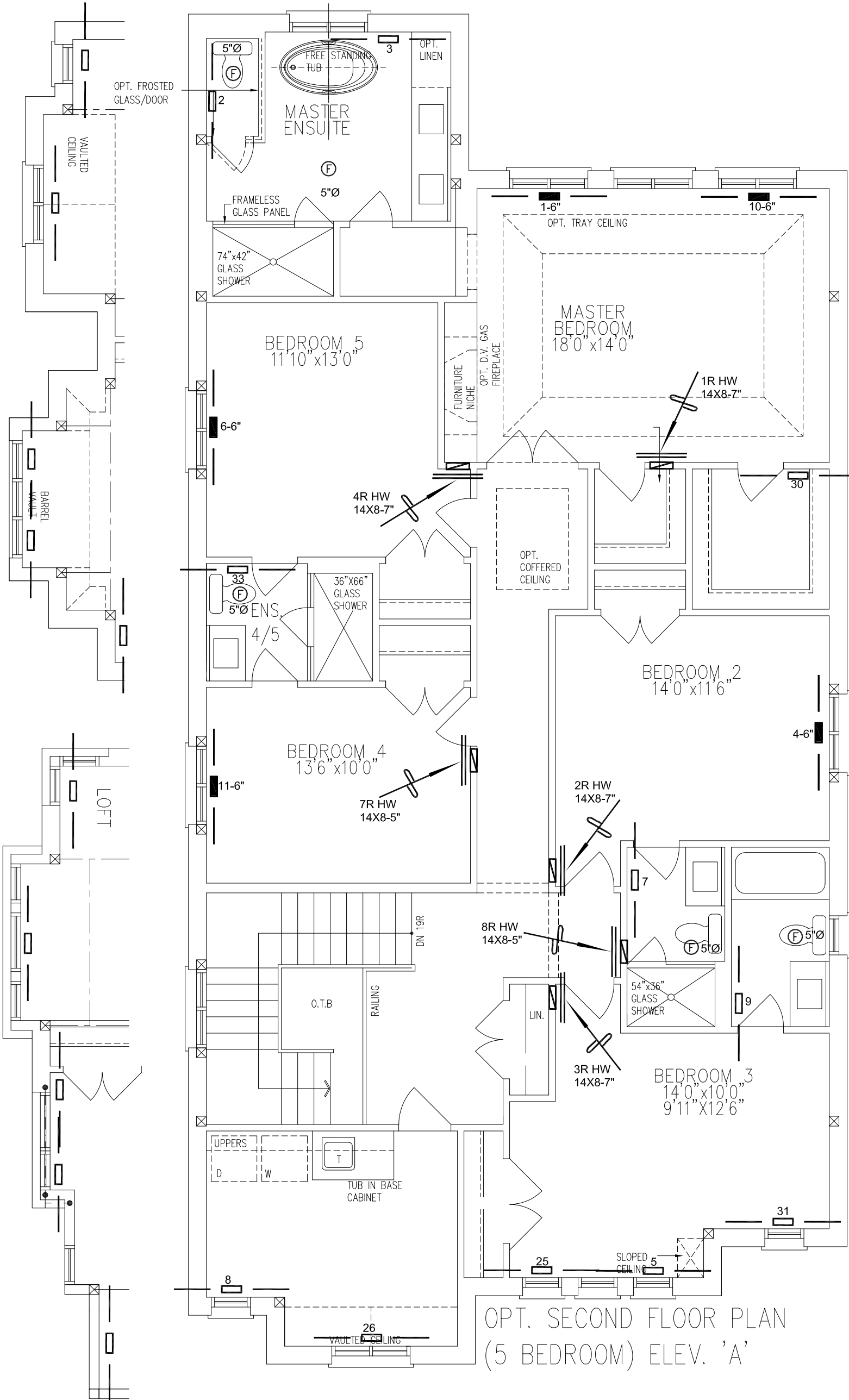
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HVAC DESIGNS LTD.

HVAC LEGEND										3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.				
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PARTIAL SECOND FLOOR PLAN – ELEVATION 'B'

PARTIAL SECOND FLOOR PLAN – ELEVATION 'C'



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Client	GOLD PARK HOMES
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT SERV STAIR ROSEDALE - OPT 5 BED 4202 3700 sqft

HVACDESIGNS LTD.

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Sheet Title	SECOND FLOOR HEATING LAYOUT
Date	FEB/2020
Scale	3/16" = 1'-0"
BCIN#	19669
LO#	85451