

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: 4002 - VALLEYVIEW Project: PINE VALLEY PH 2		
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.					
April 14, 2022 _____ 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.

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

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES
TYPE: 4002 - VALLEYVIEW
DATE: Apr-22
LO# 96118
GFA: 3479
WINTER NATURAL AIR CHANGE RATE 0.370
HEAT LOSS AT °F 76
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-3	BED-2	ENS-3/4	WINTER NATURAL AIR CHANGE RATE	HEAT LOSS AT °F	CSA-F280-12 SB-12 PACKAGE A1
GRS.WALL AREA GLAZING	360	243	153	288	117	63			
NORTH	0	0	0	0	18	0			
EAST	0	0	0	0	383	288			
SOUTH	0	14	298	50	0	0			
WEST	36	766	1496	0	0	0			
SKYLT.	37.2	101.5	0	0	0	0			
DOORS	20.1	3.4	0	0	0	0			
NET EXPOSED WALL	4.5	0.8	144	643	108	327			
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0			
EXPOSED CLG	1.3	0.6	195	250	115	266			
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	40			
EXPOSED FLOOR	2.6	0.4	0	0	0	20			
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0			
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0			
SUBTOTAL HT LOSS	2659	1887	1084	3039	1133	1137			
SUB TOTAL HT GAIN	1944	1442	447	2517	503	1147			
LEVEL FACTOR / MULTIPLIER	0.20	0.32	0.20	0.32	0.20	0.32			
AIR CHANGE HEAT LOSS	851	604	347	973	353	364			
AIR CHANGE HEAT GAIN	149	111	34	193	39	88			
DUCT LOSS	0	0	0	401	0	150			
HEAT GAIN PEOPLE	240	0	0	396	0	123			
HEAT GAIN APPLIANCES/LIGHTS	1015	0	0	1015	0	0			
TOTAL HT LOSS BTU/H	3509	2491	1431	4412	1495	1651			
TOTAL HT GAIN x 1.3 BTU/H	4664	2019	625	5670	2335	1765			

ROOM USE EXP. WALL CLG. HT.	DIN	KT/GT	LAUN	PWD	FOY	LOD	BAS
GRS.WALL AREA GLAZING	154	946	286	66	539	420	1800
NORTH	26	0	0	0	0	0	0
EAST	553	0	0	0	0	0	0
SOUTH	415	0	0	0	23	0	0
WEST	0	24	0	10	489	0	0
SKYLT.	0	511	0	213	0	0	0
DOORS	0	117	0	0	0	20	0
NET EXPOSED WALL	4.5	2490	4862	0	0	426	831
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0
EXPOSED CLG	1.3	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	10	0	0	0	0	0
EXPOSED FLOOR	2.6	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1125	6620	1756	463	3104	1260	5946
SUB TOTAL HT GAIN	512	6077	420	291	1356	972	6875
LEVEL FACTOR / MULTIPLIER	0.30	0.53	0.30	0.53	0.30	0.50	1.42
AIR CHANGE HEAT LOSS	598	3520	934	246	1651	0	11592
AIR CHANGE HEAT GAIN	39	467	32	22	107	0	96
DUCT LOSS	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	1015	0	1015	0	0	0	1015
TOTAL HT LOSS BTU/H	1722	10141	2680	709	4755	1260	18457
TOTAL HT GAIN x 1.3 BTU/H	2035	9825	1906	407	1954	1263	1814

TOTAL HEAT GAIN BTU/H: 42496

TONS: 3.54

LOSS DUE TO VENTILATION LOAD BTU/H: 1631

STRUCTURAL HEAT LOSS: 59601

TOTAL COMBINED HEAT LOSS BTU/H: 61432

Michael O'Rourke

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

TYPE: 4002 - VALLEYVIEW

DATE: Apr-22

GFA: 3179 LO# 96118

HEATING CFM 1270 COOLING CFM 1270
TOTAL HEAT LOSS 59,801 TOTAL HEAT GAIN 42,221
AIR FLOW RATE CFM 21.24 AIR FLOW RATE CFM 30.08

\$*LENNOX

ML196UH070XE48B 70
FAN SPEED LOW 0
MEDIUM 1270
HIGH 1515

AFUE = 96 %

INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,900

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	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	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-4	BED-3	BED-2	ENS-3/4	ENS-3/4	BED-4	MBR	ENS-2	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LAUN	PWD	FOY	BED-3	BAS	BAS	BAS	BAS
RM LOSS MBH	1.75	2.49	1.43	2.24	2.21	1.50	0.83	0.83	2.24	1.75	0.59	1.72	2.54	2.54	2.54	2.54	2.69	0.71	4.75	2.21	3.94	3.94	3.94	3.94
CFM PER RUN HEAT	37	53	30	48	47	32	18	18	48	37	13	37	54	54	54	54	57	15	101	47	84	84	84	84
RM GAIN MBH	2.33	2.02	0.63	2.83	2.83	2.33	0.88	0.88	2.83	2.33	0.27	2.03	2.46	2.46	2.46	2.46	1.91	0.41	1.95	2.83	0.62	0.62	0.62	0.62
CFM PER RUN COOLING	70	61	19	85	85	70	27	27	85	70	8	61	74	74	74	74	57	12	59	85	19	19	19	19
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	50	58	58	61	51	38	48	40	67	35	47	10	41	48	40	30	11	48	44	57	40	27	26	28
EQUIVALENT LENGTH	210	150	150	180	170	180	140	140	190	120	180	130	130	130	150	130	200	210	140	160	170	120	120	150
TOTAL EFFECTIVE LENGTH	260	208	208	241	221	218	188	180	257	155	227	140	171	178	190	160	211	258	184	217	180	197	146	178
ADJUSTED PRESSURE	0.07	0.08	0.08	0.07	0.07	0.08	0.09	0.1	0.06	0.11	0.08	0.12	0.1	0.1	0.09	0.11	0.08	0.07	0.09	0.09	0.09	0.08	0.11	0.09
ROUND DUCT SIZE	6	5	4	6	6	6	4	4	6	6	4	6	5	5	5	5	5	4	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	189	389	344	245	240	163	207	207	245	189	149	189	396	396	396	396	419	172	515	240	428	428	428	428
COOLING VELOCITY (ft/min)	357	448	218	433	433	357	310	310	433	357	92	311	543	543	543	543	419	138	301	433	97	97	97	97
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	C	D	B	D	D	C	B	D	B	A	A	A	B	B	C	C	D	A	A	B	B

TEMPERATURE RISE 47 °F

DESIGN CFM = 1270

CFM @ 0.1" E.S.P.

RUN# 25

ROOM NAME BAS

RM LOSS MBH 3.94

CFM PER RUN HEAT 84

RM GAIN MBH 0.62

CFM PER RUN COOLING 19

ADJUSTED PRESSURE 0.16

ACTUAL DUCT LGH 43

EQUIVALENT LENGTH 150

TOTAL EFFECTIVE LENGTH 193

ADJUSTED PRESSURE 0.08

ROUND DUCT SIZE 6

HEATING VELOCITY (ft/min) 428

COOLING VELOCITY (ft/min) 97

OUTLET GRILL SIZE 4X10

TRUNK C

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	STATIC PRESS.	TRUNK CFM	VELOCITY (ft/min)	RECT DUCT	ROUND DUCT	RECT DUCT	STATIC PRESS.	TRUNK CFM	VELOCITY (ft/min)
TRUNK A	450	0.07	10.8	14	0	0	579	0	0	0	0	0	0
TRUNK B	835	0.07	13.6	22	0	0	683	0	0	0	0	0	0
TRUNK C	296	0.06	9.6	10	0	0	533	0	0	0	0	0	0
TRUNK D	439	0.06	11.1	14	0	0	564	0	0	0	0	0	0
TRUNK E	0	0.00	0	0	0	0	0	0	0	0	0	0	0
TRUNK F	0	0.00	0	0	0	0	0	0	0	0	0	0	0

RETURN AIR #

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	STATIC PRESS.	TRUNK CFM	VELOCITY (ft/min)	RECT DUCT	ROUND DUCT	RECT DUCT	STATIC PRESS.	TRUNK CFM	VELOCITY (ft/min)
TRUNK A	450	0.07	10.8	14	0	0	579	0	0	0	0	0	0
TRUNK B	835	0.07	13.6	22	0	0	683	0	0	0	0	0	0
TRUNK C	296	0.06	9.6	10	0	0	533	0	0	0	0	0	0
TRUNK D	439	0.06	11.1	14	0	0	564	0	0	0	0	0	0
TRUNK E	0	0.00	0	0	0	0	0	0	0	0	0	0	0
TRUNK F	0	0.00	0	0	0	0	0	0	0	0	0	0	0

TYPE: 4002 - VALLEYVIEW
SITE NAME: PINE VALLEY PH 2

LO # 96118

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>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>169.6</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>169.6</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>90.1</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>79.5</u> cfm	☒ HVI Approved

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

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR				
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3/4	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
<u>150</u>	cfm high	<u>35</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:	April-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																									
LO#: 96118		Model: 4002 - VALLEYVIEW		Builder: GOLD PARK HOMES		Date: 4/14/2022																																			
Volume Calculation																																									
<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>1449</td> <td>10</td> <td>14490</td> </tr> <tr> <td>First</td> <td>1449</td> <td>11</td> <td>15939</td> </tr> <tr> <td>Second</td> <td>1740</td> <td>9</td> <td>15660</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">Total:</td> <td></td> <td>46,089.0 ft³</td> </tr> <tr> <td colspan="2">Total:</td> <td></td> <td>1305.1 m³</td> </tr> </tbody> </table>										Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1449	10	14490	First	1449	11	15939	Second	1740	9	15660	Third	0	9	0	Fourth	0	9	0	Total:			46,089.0 ft³	Total:			1305.1 m³
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																						
Bsmt	1449	10	14490																																						
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Air Change & Delta T Data																																									
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Design Temperature Difference																																									
				Tin °C		Tout °C		ΔT °C																																	
				22		-20		42																																	
				24		31		7																																	
				Winter DTDh				76																																	
				Summer DTDc				13																																	
6.2.6 Sensible Gain due to Air Leakage																																									
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																									
0.370		x		362.53		x		1.2																																	
								= 384 W																																	
								= 1311 Btu/h																																	
6.2.7 Sensible heat Gain due to Ventilation																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																									
80 CFM		x		13 °F		x		0.25																																	
								= 275 Btu/h																																	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																									
$HL_{airrr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">23,163</td> <td>8,136</td> <td>1.424</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>13,068</td> <td>0.532</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>14,475</td> <td>0.320</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table>										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	23,163	8,136	1.424	2	0.3	13,068	0.532	3	0.2	14,475	0.320	4	0	0	0.000	5	0	0	0.000						
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)																																					
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2	0.3		13,068	0.532																																					
3	0.2		14,475	0.320																																					
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 HLairbv = 0																																									

Michael O'Rourke
BCIN# 19669

Michael O'Rourke

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 4002 - VALLEYVIEW**BUILDER:** GOLD PARK HOMES**SFQT:** 3179**LO#** 96118**SITE:** PINE VALLEY PH 2**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

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):	46089.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	180.0 ft

2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		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		96%	-
HRV/ERV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.8	-

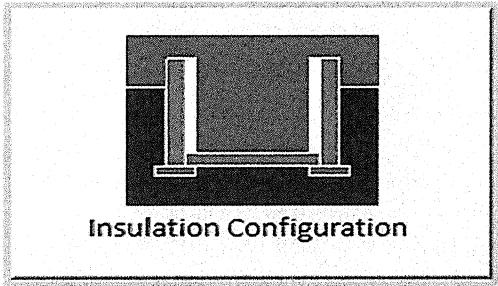
INDIVIDUAL BCIN: 19669

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):	17.7	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	2.4	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1742

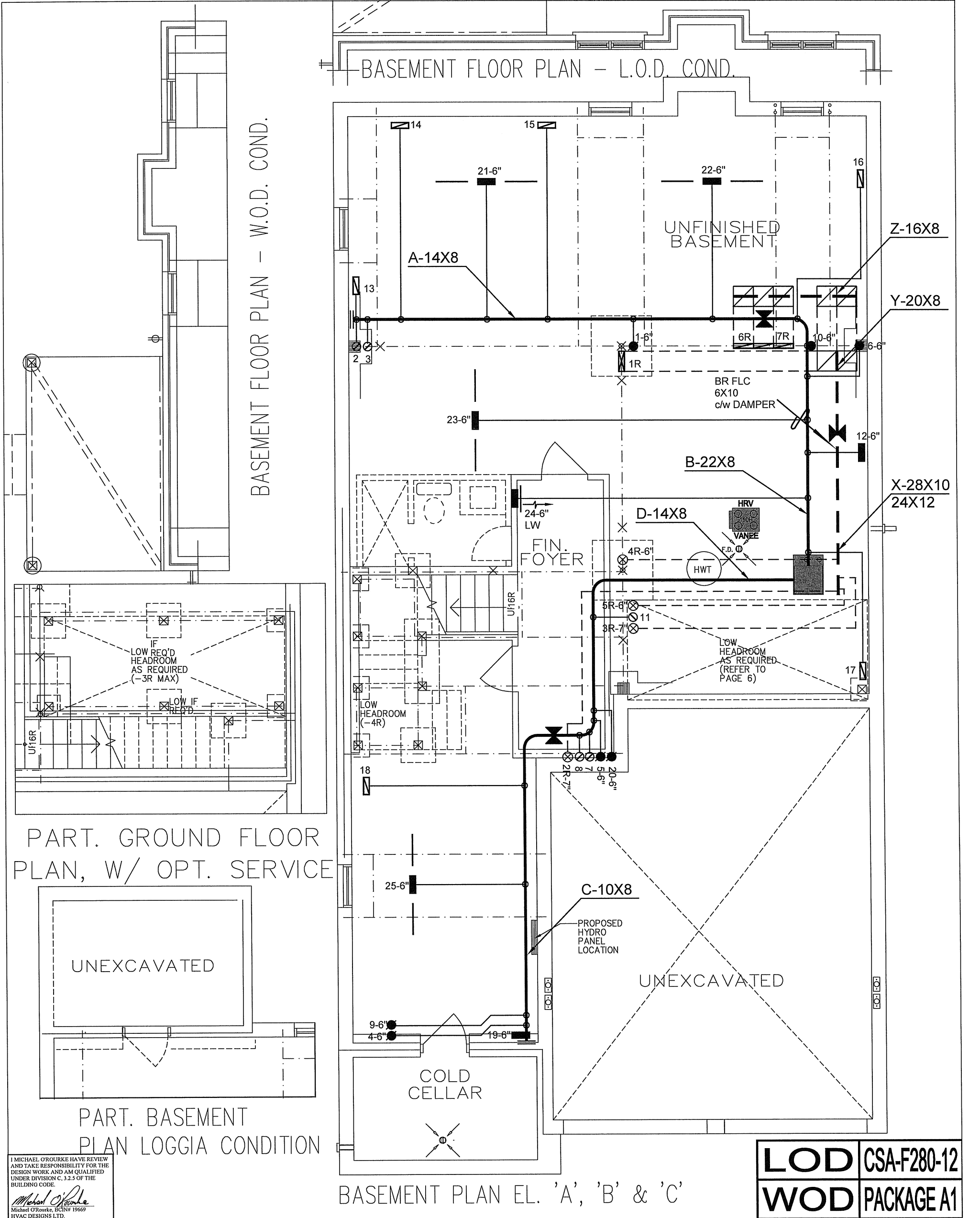
TYPE: 4002 - VALLEYVIEW
LO# 96118

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):	7.92			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1305.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1739.7 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.370			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4002 - VALLEYVIEW
LO# 96118



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.

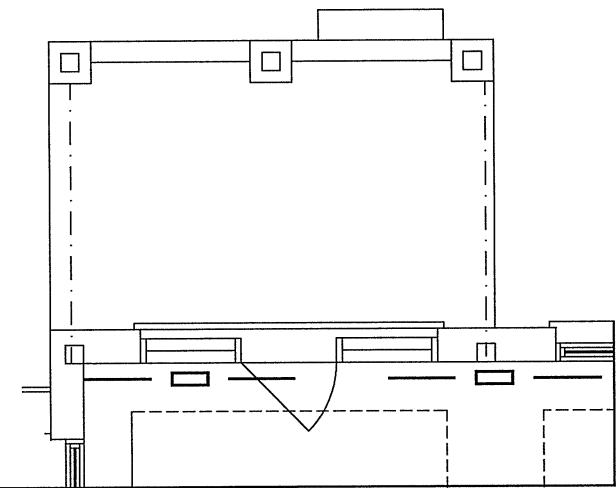
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD	CSA-F280-12
WOD	PACKAGE A1

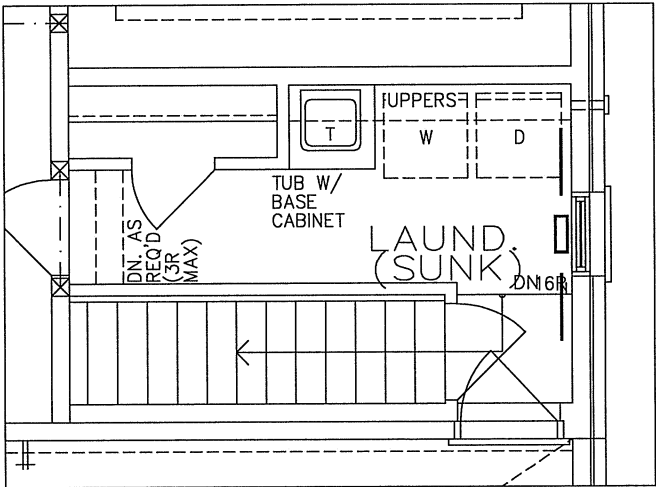
HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK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

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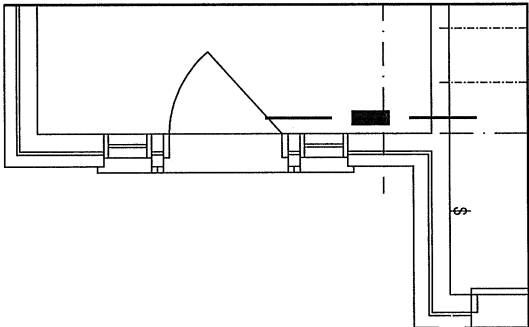
Client		HVAC DESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services		HEAT LOSS 61432 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES				UNIT DATA		3RD FLOOR			BASEMENT 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.		MAKE		2ND FLOOR			Date	
PINE VALLEY PH 2 VAUGHAN, ONTARIO				LENNOX		12 5 3			APR/2022	
VALLEYVIEW 4002				MODEL		1ST FLOOR			Scale	
				ML196070XE48B		8 2 2			3/16" = 1'-0"	
				INPUT		BASEMENT			BCIN# 19669	
3179 sqft		66 MBTU/H		5 1 0			LO#			
		OUTPUT		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			96118			
		63.9 MBTU/H								
		COOLING								
		3.5 TONS								
		FAN SPEED								
		1270 cfm @ 0.6" w.c.								



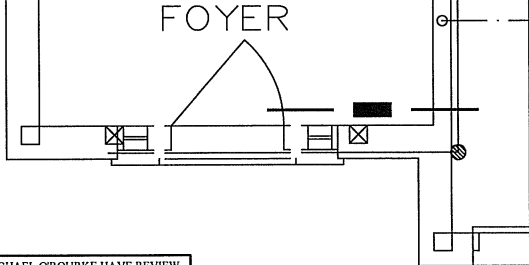
PART. GROUND FLOOR
LOGGIA CONDITION



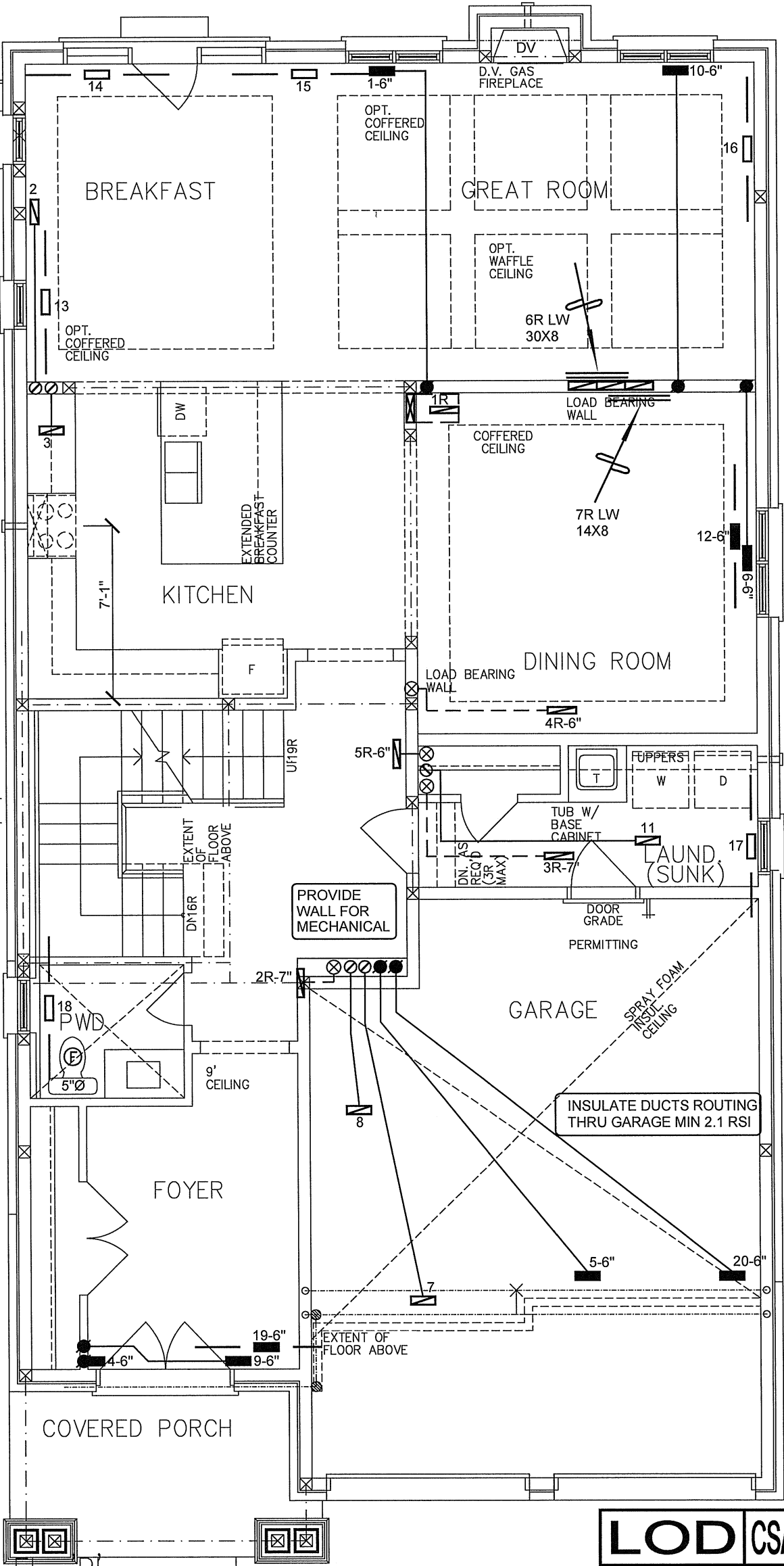
PART. GROUND FLOOR
PLAN, W/ OPT. SERVICE



GROUND FLOOR PLAN EL. CB'



GROUND FLOOR PLAN EL. 'B'



GROUND FLOOR PLAN EL. 'A'

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AND TAKE RESPONSIBILITY FOR THE
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UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.

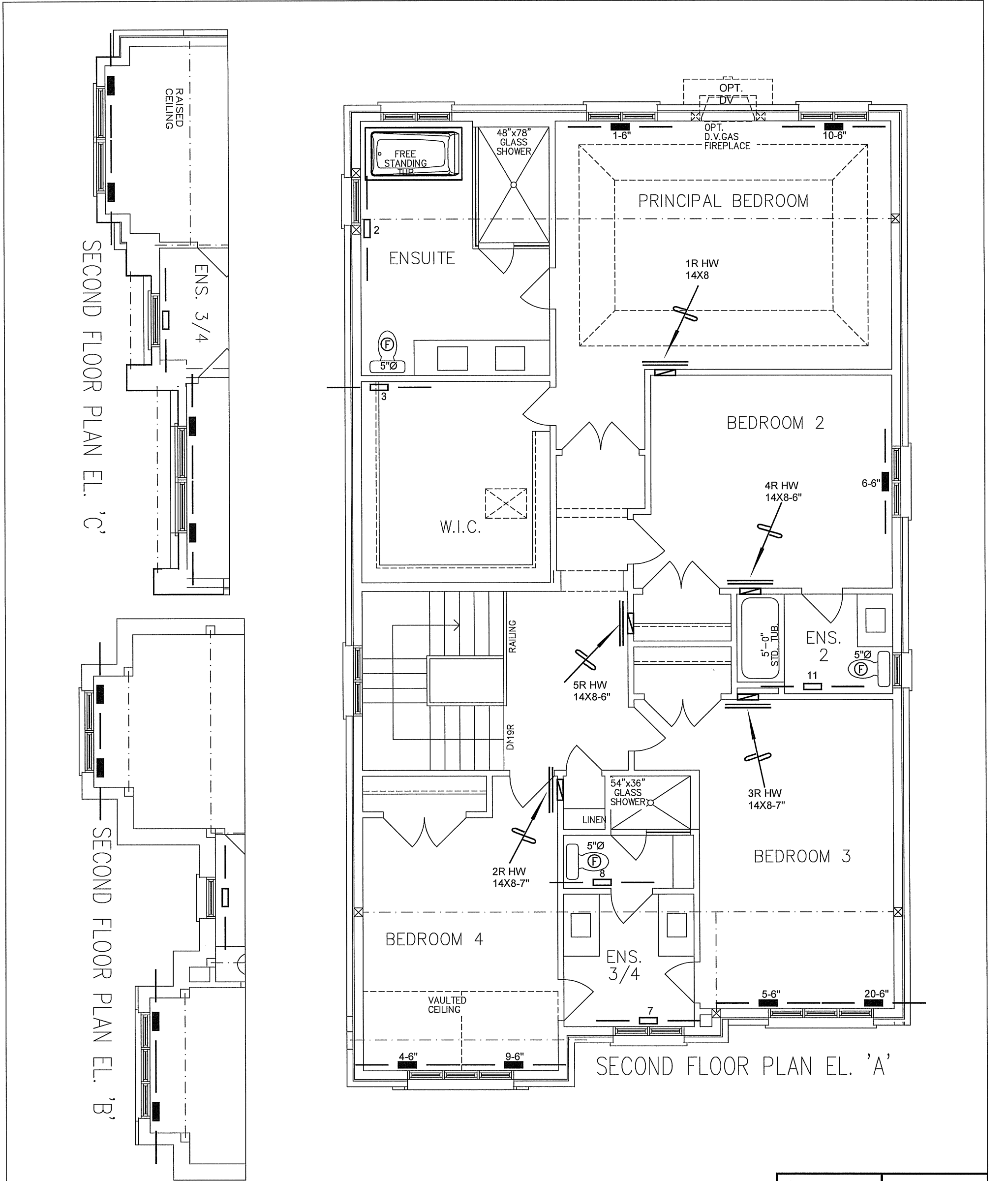
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD CSA-F280-12
WOD 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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER		Date

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Client GOLD PARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name PINE VALLEY PH 2 VAUGHAN, ONTARIO			Date APR/2022	
VALLEYVIEW 4002			Scale 3/16" = 1'-0"	
3179 sqft			BCIN# 19669	
			LO#	96118



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.

LOD	CSA-F280-12
WOD	PACKAGE A1

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	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	APR/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
VALLEYVIEW 4002			BCIN# 19669	
3179 sqft		LO#	96118	