

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.
Municipality VAUGHAN (WOODBIDGE)			Postal code
Plan number/ other description			Lot/con.
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: 5013 - RIVERVIEW OPT 5 BED - OPT 5 BED - WO/LOFT 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.			
May 4, 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										DATE May-22		WINTER NATURAL AIR CHANGE RATE 0.340		HEAT LOSS AT °F. 76		CSA-F280-12	
BUILDER: GOLD PARK HOMES										LO# 86525		SUMMER NATURAL AIR CHANGE RATE 0.144		HEAT GAIN AT °F. 13		SB-12 PACKAGE M1	
TYPE: 5013 - RIVERVIEW										GFA: 4447		ENS-2		BED-5		ENS-4	
ROOM USE										WIC		ENS-3		BED-4		ENS-5	
EXP. WALL CLG. HT.										10 9		17 9		47 9		8 9	
FACTORS										18 9		9 9		9 9		15 9	
GRS.WALL AREA GLAZING										90		153		63		135	
NORTH										0 0		0 0		0 0		0 0	
EAST										0 0		0 0		0 0		0 0	
SOUTH										0 0		0 0		0 0		0 0	
WEST										0 0		0 0		0 0		0 0	
SKYLT.										0 0		0 0		0 0		0 0	
DOORS										0 0		0 0		0 0		0 0	
NET EXPOSED WALL										287 1281		141 629		53 237		66 295	
NET EXPOSED BMT WALL ABOVE GR										25.2 4.3		0 0		0 0		0 0	
EXPOSED CLG										1.3 340		120 154		107 137		147 189	
NO ATTIC EXPOSED CLG										0 0		0 0		0 0		0 0	
EXPOSED FLOOR										0 0		59 150		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 0	
SUBTOTAL HT LOSS										2696		1189		587		611	
SUB TOTAL HT GAIN										2327		700		352		285	
LEVEL FACTOR / MULTIPLIER										0.20 0.35		0.20 0.35		0.20 0.35		0.20 0.35	
AIR CHANGE HEAT LOSS										951		419		207		215	
AIR CHANGE HEAT GAIN										168		51		25		21	
DUCT LOSS										0 0		161		0 0		0 0	
DUCT GAIN										0 0		75		0 0		0 0	
HEAT GAIN PEOPLE										240		0 0		1 1		0 0	
HEAT GAIN APPLIANCES/LIGHTS										1106		0 0		1106		0 0	
TOTAL HT LOSS BTU/H										3647		1769		794		826	
TOTAL HT GAIN x 1.3 BTU/H										5305		1074		2240		1131	
TOTAL HT GAIN BTU/H:										62598		84413		90569		90569	

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

OPT 5 BED - OPT 5 BED - WO/LOFT
TYPE: 5013 - RIVERVIEW

GFA: 4447

LO# 96525

DATE: May-22

FURNACE 1

HEATING CFM 1110 COOLING CFM 1110
TOTAL HEAT LOSS 58,963 TOTAL HEAT GAIN 34,643
AIR FLOW RATE CFM 18.83 AIR FLOW RATE CFM 32.04

FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 62041 BTUH

ML196UH070XE36B \$LENNOX
FAN SPEED 70
LOW 0
MEDIUM 985
HIGH 1110

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,900

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	12	6
R/A	0	0	0	2	1

plenum 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

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

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

RUN #	ROOM NAME	19	20	21	22	23	24
ROOM LOSS MBH.	FOY	3.08	GRT	GRT	GRT	GRT	DIN
CFM PER RUN HEAT	58	45	45	45	45	45	57
RM GAIN MBH.	1.87	3.33	3.33	3.33	3.33	3.33	2.75
CFM PER RUN COOLING	60	107	107	107	107	107	88
ADJUSTED PRESSURE	0.17	0.15	0.15	0.15	0.15	0.15	0.16
ACTUAL DUCT LGH.	47	56	49	45	38	27	
EQUIVALENT LENGTH	100	110	150	130	150	140	
TOTAL EFFECTIVE LENGTH	147	166	199	175	188	167	
ADJUSTED PRESSURE	0.12	0.09	0.08	0.09	0.08	0.1	
ROUND DUCT SIZE	5	6	6	6	6	5	
HEATING VELOCITY (ft/min)	426	229	229	229	229	419	
COOLING VELOCITY (ft/min)	441	546	546	546	546	646	
OUTLET GRILL SIZE	3X10	4X10	4X10	4X10	4X10	3X10	F
TRUNK	F	D	D	D	D	D	F

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMESOPT 5 BED - OPT 5 BED - WO/LOFT
TYPE: 5013 - RIVERVIEW

GFA: 4447 LO# 96525 FURNACE 2

HEATING CFM 980 COOLING CFM 980
TOTAL HEAT LOSS 27,436
AIR FLOW RATE CFM 35.72furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35ML196UH045XE36B 45
FAN SPEED LOW 620
MEDIUM 685
HIGH 980AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	19	0	0
R/A	0	0	5	0	0

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16r/a pressure 0.17
r/a grille press. loss 0.02
adjusted pressure r/a 0.15All 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
ROOM NAME	PBR	PBR	ENS	ENS	WIC	ENS-5	BED-2	BED-2	BED-3	BED-3	ENS-4	BED-4	BED-4	ENS-2	ENS-3	BED-5	LND	
RM LOSS MBH.	1.82	1.82	1.00	1.00	0.89	0.83	1.45	1.45	1.42	1.42	1.13	1.67	1.67	1.91	1.77	0.79	0.32	
CFM PER RUN HEAT	70	70	38	38	34	32	56	56	55	55	44	64	64	73	68	31	12	
RM GAIN MBH.	2.65	2.65	0.69	0.69	0.39	0.40	1.49	1.49	1.76	1.76	0.37	1.89	1.89	0.67	1.07	2.24	1.70	
CFM PER RUN COOLING	95	95	24	24	14	14	53	53	63	63	13	68	68	24	38	80	61	
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
ACTUAL DUCT LGH.	52	63	48	16	51	19	72	77	78	69	69	66	73	84	64	75	60	
EQUIVALENT LENGTH	190	180	255	130	245	120	170	180	200	190	180	190	170	190	180	160	130	
TOTAL EFFECTIVE LENGTH	242	243	303	303	146	139	242	257	278	259	249	256	243	274	244	235	190	
ADJUSTED PRESSURE	0.07	0.07	0.06	0.12	0.06	0.12	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.09	
ROUND DUCT SIZE	6	6	5	4	5	4	5	5	6	6	5	6	6	6	6	6	5	
HEATING VELOCITY (ft/min)	357	357	279	436	250	367	411	411	280	280	323	326	326	372	347	158	88	
COOLING VELOCITY (ft/min)	484	484	176	275	103	161	389	389	321	321	95	347	347	122	194	408	448	
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	
TRUNK	C	C	C	C	C	C	B	B	A	A	A	A	A	B	A	A	B	

RUN #	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
ROOM NAME	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4	BED-3	BED-4
RM LOSS MBH.	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67	1.42	1.67
CFM PER RUN HEAT	55	64	55	64	55	64	55	64	55	64	55	64	55	64	55	64	55	64
RM GAIN MBH.	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89	1.76	1.89
CFM PER RUN COOLING	63	68	63	68	63	68	63	68	63	68	63	68	63	68	63	68	63	68
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	67	71	67	71	67	71	67	71	67	71	67	71	67	71	67	71	67	71
EQUIVALENT LENGTH	190	170	190	170	190	170	190	170	190	170	190	170	190	170	190	170	190	170
TOTAL EFFECTIVE LENGTH	257	241	257	241	257	241	257	241	257	241	257	241	257	241	257	241	257	241
ADJUSTED PRESSURE	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
ROUND DUCT SIZE	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	280	326	280	326	280	326	280	326	280	326	280	326	280	326	280	326	280	326
COOLING VELOCITY (ft/min)	321	347	321	347	321	347	321	347	321	347	321	347	321	347	321	347	321	347
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

SUPPLY AIR TRUNK SIZE	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 A	500	0.06	11.6	16	563	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK B	697	0.06	13.2	22	570	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK C	979	0.06	15	26	678	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK D	0	0.00	0	0	0	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK E	0	0.00	0	0	0	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK F	0	0.00	0	0	0	0	0.00	0	0	8	0	0.05	0	0	8

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
AIR VOLUME	155	260	115	115	335	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	62	78	79	75	69	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	170	235	195	245	230	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	232	313	274	320	299	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ROUND DUCT SIZE	7.5	9.5	7	7	10.5	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	30	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 5013 - RIVERVIEW
SITE NAME: PINE VALLEY PH 2

LO # 96525
OPT 5 BED - OPT 5 BED - WO/LOFT

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	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	201.4 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	201.4	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	51.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE V150H	Location: BSMT		
150.0 cfm	☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
150.0 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-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H	INSTALL 2 HRV / ERV's	
150 cfm high	35 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:	May-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																									
LO#: 96525		Model: 5013 - RIVERVIEW		Builder: GOLD PARK HOMES		Date: 2022-05-04																																			
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>2106</td> <td>10</td> <td>21060</td> </tr> <tr> <td>First</td> <td>2106</td> <td>11</td> <td>23166</td> </tr> <tr> <td>Second</td> <td>2740</td> <td>9</td> <td>24660</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>68,886.0 ft³</td> </tr> <tr> <td colspan="2">Total:</td> <td></td> <td>1950.6 m³</td> </tr> </tbody> </table>										Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2106	10	21060	First	2106	11	23166	Second	2740	9	24660	Third	0	9	0	Fourth	0	9	0	Total:			68,886.0 ft³	Total:			1950.6 m³
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																						
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> </thead> <tbody> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> </tbody> </table>										Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7																
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	Tin °C	Tout °C	ΔT °C																																						
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6.2.6 Sensible Gain due to Air Leakage																																									
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ $= 0.114 \times 541.84 \times 7 \times 1.2 = 529 \text{ W}$																																									
6.2.7 Sensible Heat Gain due to Ventilation																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ $300 \text{ CFM} \times 13 \text{ °F} \times 1.08 \times 0.25 = 1,037 \text{ Btu/h}$																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																									
$HL_{airrr} = Level \text{ Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x Hlaireb / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">31,853</td> <td>13,293</td> <td>1.198</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>20,187</td> <td>0.473</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>18,065</td> <td>0.353</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)	Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x Hlaireb / HLlevel)	1	0.5	31,853	13,293	1.198	2	0.3	20,187	0.473	3	0.2	18,065	0.353	4	0	0	0.000	5	0	0	0.000						
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5	0		0	0.000																																					
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																									

Michael O'Rourke
BCIN# 19669

Michael O'Rourke

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5013 - RIVERVIEW	OPT 5 BED - OPT 5 BED - WO/LOFT	BUILDER: GOLD PARK HOMES
SFQT: 4447	LO# 96525	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):	68886.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 70.0 ft	WIDTH: 43.0 ft	EXPOSED PERIMETER:	226.0 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	-

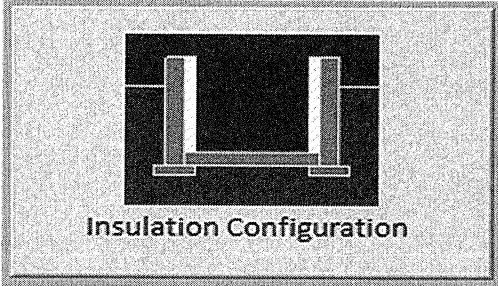
INDIVIDUAL BCIN: 19669

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):	21.3	 Insulation Configuration
Floor Width (m):	13.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	2.5	
Door Area (m ²):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2345

TYPE: 5013 - RIVERVIEW
LO# 96525

OPT 5 BED - OPT 5 BED - WO/LOFT

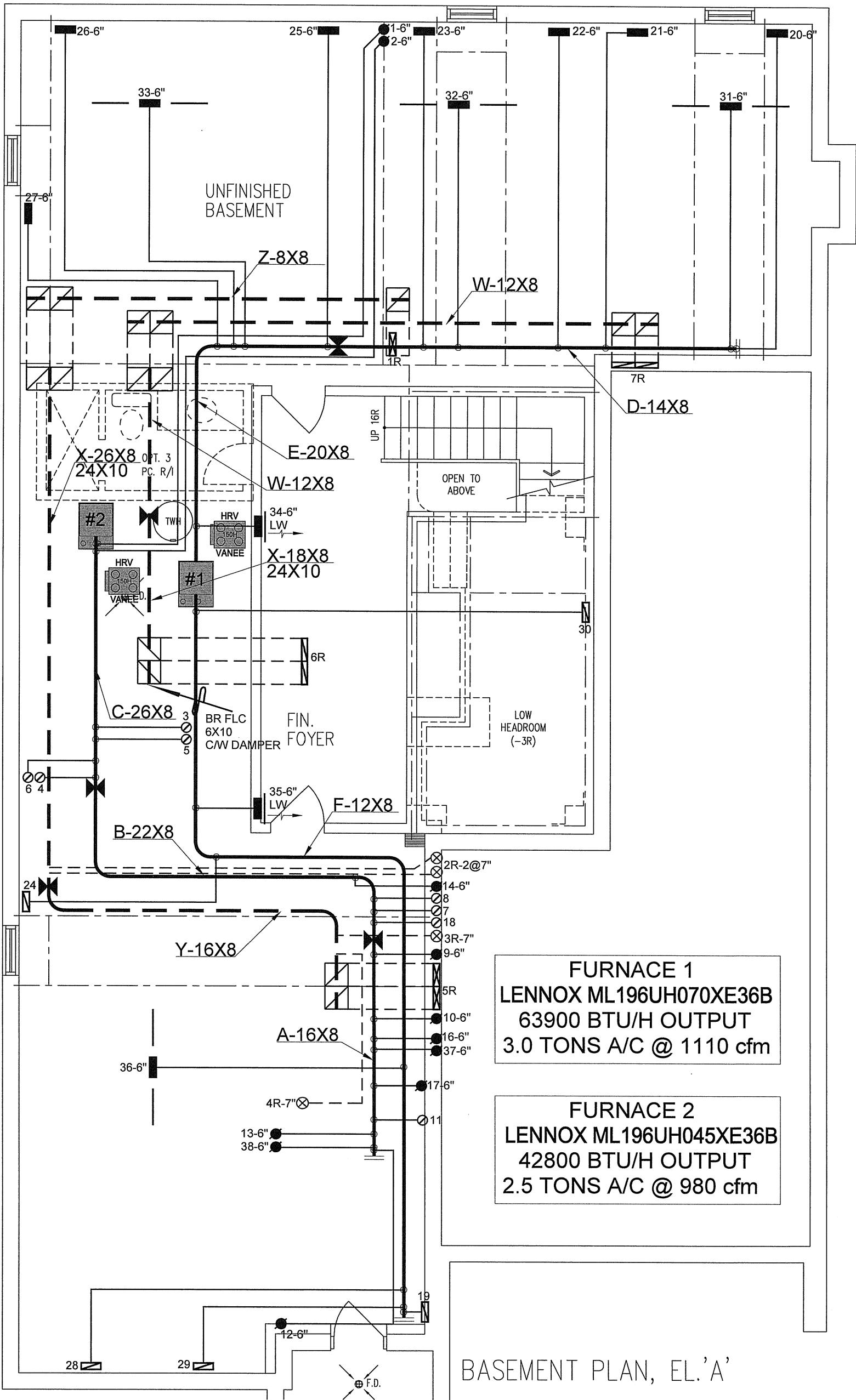
Air Infiltration Residential Load Calculator

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):	1950.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2600.3 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	70.8	70.8		
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):	0.114			

TYPE: 5013 - RIVERVIEW
LO# 96525

OPT 5 BED - OPT 5 BED - WO/LOFT



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
WOD
CSA-F280-12
PACKAGE A1

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

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FURNACE 1
LENNOX ML196UH070XE36B
63900 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

FURNACE 2
LENNOX ML196UH045XE36B
42800 BTU/H OUTPUT
2.5 TONS A/C @ 980 cfm

BASEMENT PLAN, EL.'A'

Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO
WO/LOFT
RIVERVIEW - OPT 5 BED
5013**

4447 sqft

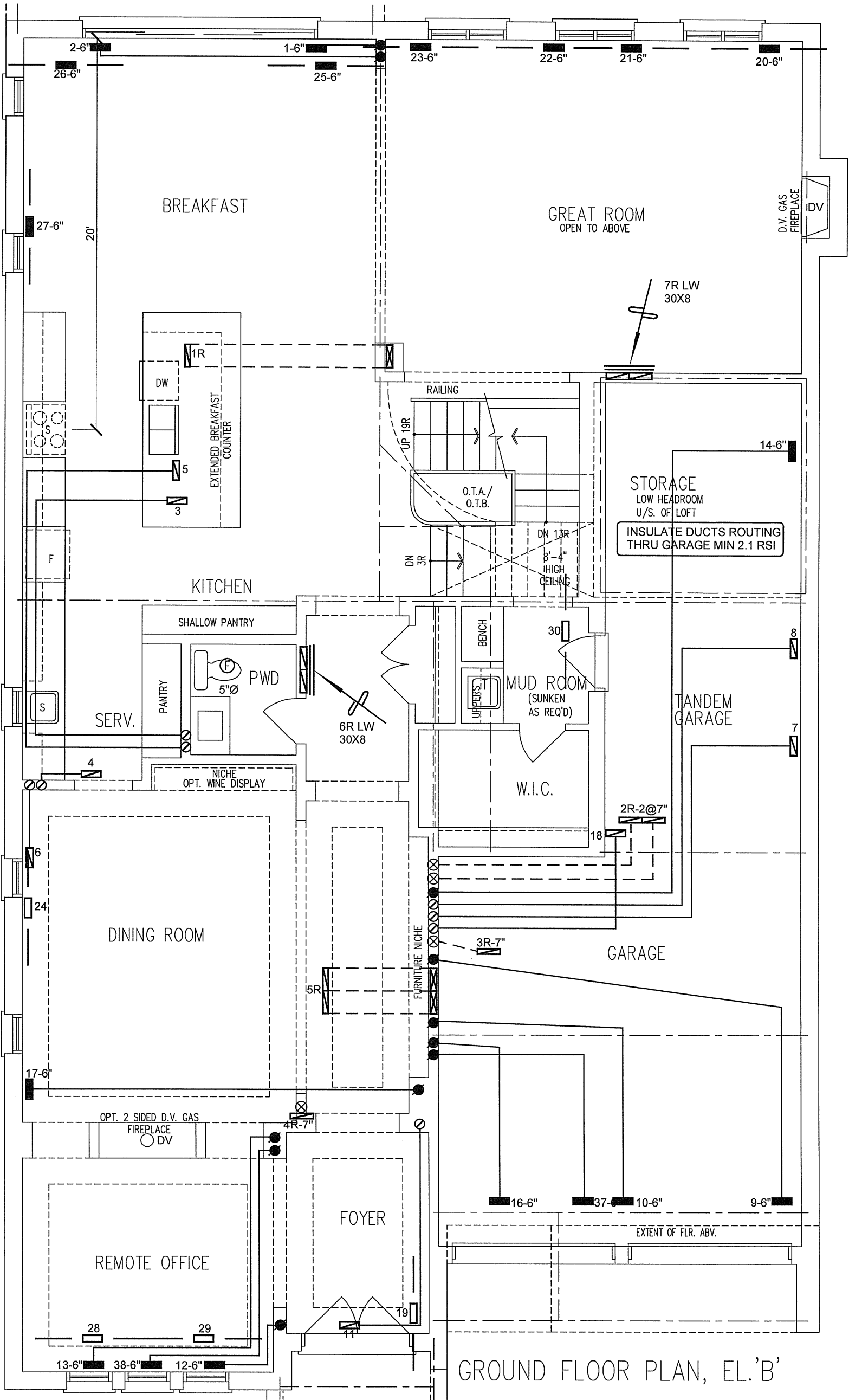
HVACDESIGNS LTD.

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.

	S/A	R/A	FANS
2ND	19	5	7
1ST	12	2	2
BAS	6	1	0

Sheet Title	
BASEMENT HEATING LAYOUT	
Date	MAY/2022
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	96525



GROUND FLOOR PLAN, EL. 'B'

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.

LOD
WOD
CSA-F280-12
PACKAGE A1

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

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Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO
WO/LOFT
RIVERVIEW - OPT 5 BED
5013**

4447 sqft

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

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date
MAY/2022

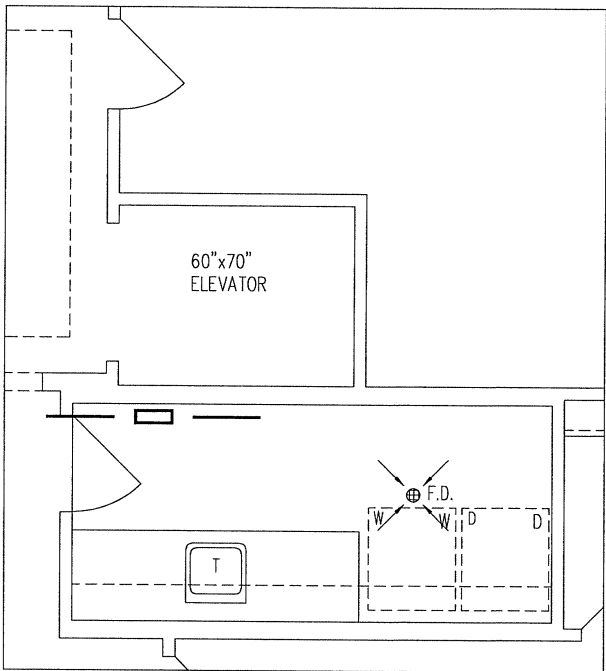
Scale
3/16" = 1'-0"

BCIN# 19669

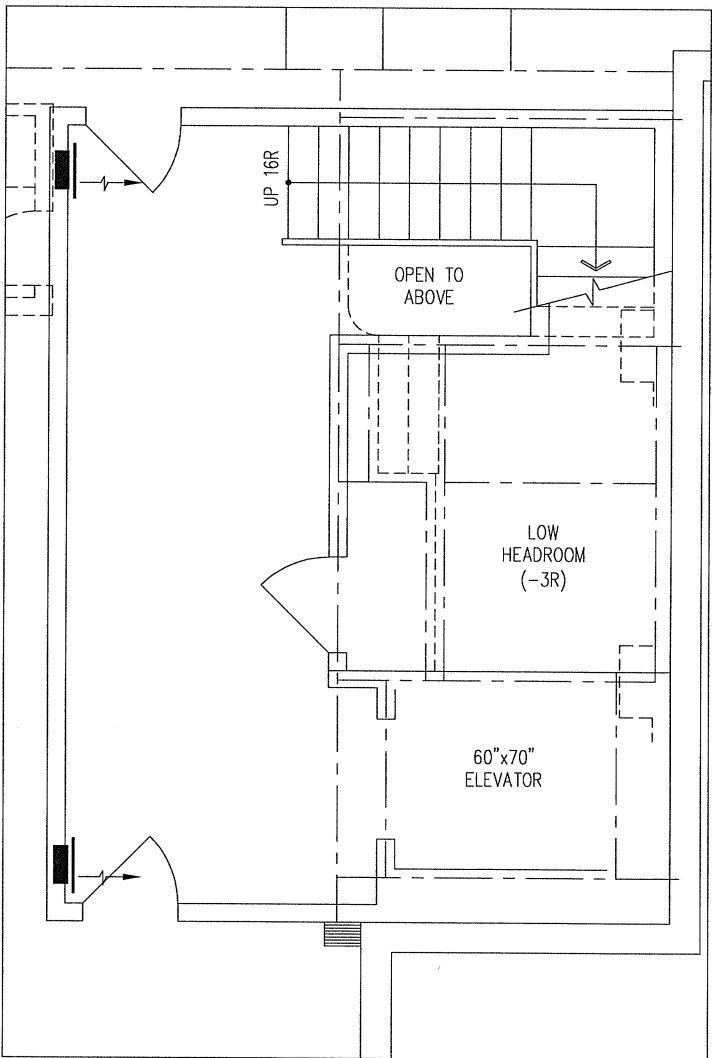
LO# 96525

PART. BASEMENT PLAN ELEV. 'A' - W.O.D. COND.

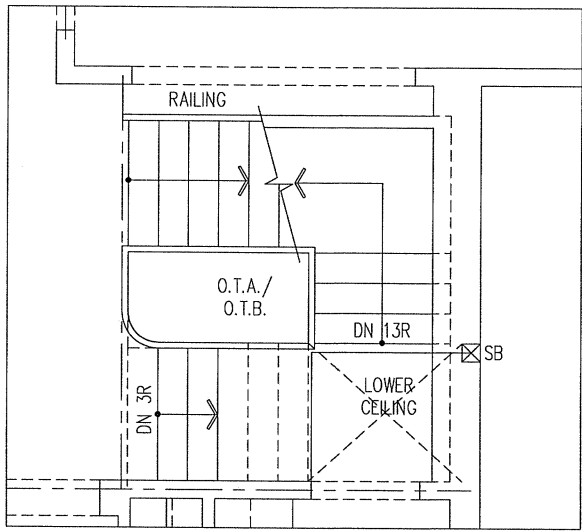
PART. BASEMENT PLAN ELEV. 'A' - L.O.D. COND.



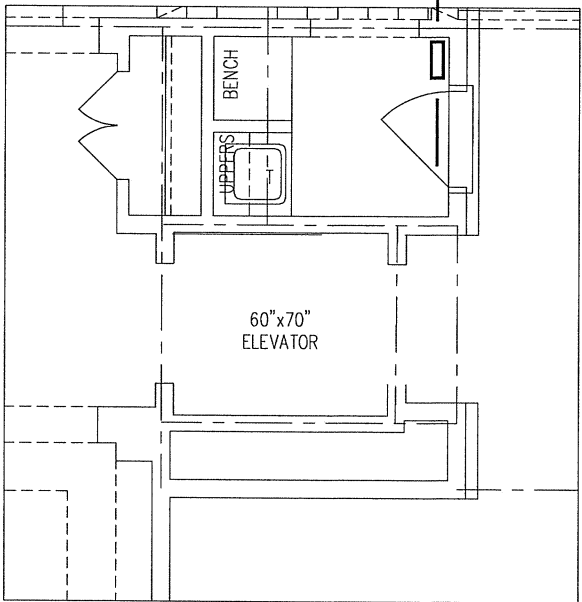
PART. OPT. 5 BEDROOM SECOND FLOOR PLAN, W/O. LOFT W/ ELEVATOR, EL. 'A'



PART BASEMENT FLOOR PLAN, W/ OPT. ELEVATOR, EL. 'A'



PART. GROUND FLOOR PLAN, W/ NO LOFT CONDITION, EL. 'A'



PART. GROUND FLOOR PLAN, W/ OPT. ELEVATOR, EL. 'A'

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.

LOD

WOD

CSA-F280-12

PACKAGE A1

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

Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO
WO/LOFT
RIVERVIEW - OPT 5 BED
5013 4447 sqft**

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.

Sheet Title
**STRIP PLAN
HEATING
LAYOUT**

Date
MAY/2022

Scale
3/16" = 1'-0"

BCIN# 19669

LO# **96525**