

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: 5013 - ELEV C - RIVERVIEW OPT 5 BED Project: PINE VALLEY PH 2		
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.					
May 5, 2022			 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 PH 2										DATE May-22		HEAT LOSS AT °F. 76		CSA-F280-12	
BUILDER: GOLD PARK HOMES										LO# 86708		HEAT GAIN AT °F. 13		SB-12 PACKAGE A1	
TYPE: 5013 - ELEV C - RIVERVIEW										GFA: 4502		WINTER NATURAL AIR CHANGE RATE 0.114		SUMMER NATURAL AIR CHANGE RATE 0.114	
OPT 5 BED										BED-2		BED-3		BED-4	
ROOM USE										WIC		ENS		ENS-2	
EXP. WALL										10		16		7	
CLG. HT.										9		9		9	
FACTORS										99		11		423	
GRS.WALL AREA										LOSS		LOSS		LOSS	
GLAZING										GAIN		GAIN		GAIN	
NORTH										0		0		0	
EAST										0		0		0	
SOUTH										0		0		0	
WEST										0		0		0	
SKYL.T.										0		0		0	
DOORS										0		0		0	
NET EXPOSED WALL										0		0		0	
NET EXPOSED BSMT WALL ABOVE GR										0		0		0	
EXPOSED CLG										0		0		0	
NO ATTIC EXPOSED CLG										0		0		0	
EXPOSED FLOOR										0		0		0	
BASEMENT/CRAWL HEAT LOSS										0		0		0	
SLAB ON GRADE HEAT LOSS										0		0		0	
SUBTOTAL HT LOSS										2327		1476		706	
LEVEL FACTOR / MULTIPLIER										0.20		0.20		0.20	
AIR CHANGE HEAT LOSS										873		478		229	
AIR CHANGE HEAT GAIN										146		61		17	
DUCT LOSS										0		0		0	
DUCT GAIN										0		0		0	
HEAT GAIN PEOPLE										240		480		28	
HEAT GAIN APPLIANCES/LIGHTS										742		742		0	
TOTAL HT LOSS BTU/H										3569		1953		1028	
TOTAL HT GAIN x 1.3 BTU/H										4803		6374		1762	

ROOM USE										FOY		MUD		LOB	
EXP. WALL										21		34		53	
CLG. HT.										11		11		10	
FACTORS										231		374		530	
GRS.WALL AREA										LOSS		LOSS		LOSS	
GLAZING										GAIN		GAIN		GAIN	
NORTH										0		0		0	
EAST										0		0		0	
SOUTH										0		0		0	
WEST										0		0		0	
SKYL.T.										0		0		0	
DOORS										0		0		0	
NET EXPOSED WALL										0		0		0	
NET EXPOSED BSMT WALL ABOVE GR										0		0		0	
EXPOSED CLG										0		0		0	
NO ATTIC EXPOSED CLG										0		0		0	
EXPOSED FLOOR										0		0		0	
BASEMENT/CRAWL HEAT LOSS										0		0		0	
SLAB ON GRADE HEAT LOSS										0		0		0	
SUBTOTAL HT LOSS										2092		2085		2702	
SUB TOTAL HT GAIN										80		351		1214	
LEVEL FACTOR / MULTIPLIER										0.30		0.30		0.50	
AIR CHANGE HEAT LOSS										980		976		16046	
AIR CHANGE HEAT GAIN										84		22		0	
DUCT LOSS										0		0		0	
DUCT GAIN										0		0		0	
HEAT GAIN PEOPLE										3071		3061		2702	
HEAT GAIN APPLIANCES/LIGHTS										1850		485		1579	
TOTAL HT LOSS BTU/H										4861		1192		26638	
TOTAL HT GAIN x 1.3 BTU/H										8554		854		907	

TOTAL HEAT GAIN BTU/H: 65712

TONS: 5.48

LOSS DUE TO VENTILATION LOAD BTU/H: 6156

STRUCTURAL HEAT LOSS: 86832

TOTAL COMBINED HEAT LOSS BTU/H: 92988

Michael O'Rourke

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

OPT 5 BED
TYPE: 5013 - ELEV C - RIVERVIEW DATE: May-22

GFA: 4502 LO# 96708 FURNACE 1

HEATING CFM 1110
TOTAL HEAT LOSS 59,525
AIR FLOW RATE CFM 18.65

COOLING CFM 1110
TOTAL HEAT GAIN 33,335
AIR FLOW RATE CFM 33.3

ML196UH070XE38B
FAN SPEED 70
\$LENNOX

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
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

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

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'x10" unless noted otherwise on layout.

ROOM NAME	19	20	21	22	23	24
FOY	3.07	2.36	2.36	2.36	2.36	3.00
DIN	57	44	44	44	44	56
GR	1.85	3.18	3.18	3.18	3.18	2.26
GR	62	106	106	106	106	75
GR	0.17	0.16	0.16	0.16	0.16	0.17
GR	47	56	49	45	38	27
GR	100	110	150	130	150	140
GR	147	166	199	175	188	167
GR	0.12	0.1	0.08	0.09	0.1	0.1
GR	5	6	6	6	6	5
GR	419	224	224	224	224	411
GR	455	540	540	540	540	551
GR	3X10	4X10	4X10	4X10	4X10	3X10
GR	F	D	D	D	D	F

ROOM NAME	25	26	27	28	29	30	31	32	33	34	35	36
RM LOSS MBH.	2.57	2.57	2.57	1.95	1.95	3.06	4.89	4.89	4.89	4.89	4.89	4.89
CFM PER RUN HEAT	48	48	48	36	36	57	91	91	91	91	91	91
RM GAIN MBH.	2.88	2.88	2.88	2.43	2.43	0.49	0.41	0.41	0.41	0.41	0.41	0.41
CFM PER RUN COOLING	96	96	96	81	81	16	14	14	14	14	14	14
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	34	39	31	65	21	51	37	32	32	16	15	49
EQUIVALENT LENGTH	100	140	170	130	120	140	130	130	130	130	130	130
TOTAL EFFECTIVE LENGTH	134	179	201	195	180	161	161	177	162	146	145	179
ADJUSTED PRESSURE	0.12	0.09	0.08	0.08	0.09	0.11	0.1	0.09	0.1	0.11	0.11	0.09
ROUND DUCT SIZE	6	6	6	6	6	5	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	245	245	245	184	184	419	464	464	464	464	464	464
COOLING VELOCITY (ft/min)	489	489	489	413	413	117	71	71	71	71	71	71
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	E	E	E	F	F	F	D	D	E	E	F	F

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.00	0	0	8	0	0.00	0	0	8
TRUNK B	0.00	0	0	8	0	0.00	0	0	8
TRUNK C	0.00	0	0	8	0	0.00	0	0	8
TRUNK D	0.08	9.5	14	8	0	0.00	0	0	8
TRUNK E	0.08	12.2	20	8	0	0.00	0	0	8
TRUNK F	0.08	10.2	12	8	0	0.00	0	0	8

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.00	0	0	8	0	0.07	0	0	8
TRUNK B	0.00	0	0	8	0	0.07	0	0	8
TRUNK C	0.00	0	0	8	0	0.07	0	0	8
TRUNK D	0.08	9.5	14	8	0	0.07	0	0	8
TRUNK E	0.08	12.2	20	8	0	0.07	0	0	8
TRUNK F	0.08	10.2	12	8	0	0.07	0	0	8

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMESOPT 5 BED
TYPE: 5013-ELEV.C-RIVERVIEW DATE: May-22

FURNACE 2

GFA: 4502

LO# 96708

HEATING CFM 980
TOTAL HEAT LOSS 27,307
AIR FLOW RATE CFM 35.89COOLING CFM 980
TOTAL HEAT GAIN 31,858
AIR FLOW RATE CFM 30.76furnace pressure 0.6
furnace filler 0.05
a/c coil pressure 0.2
available pressure 0.35
for s/a & r/aML196UH045XE36B
FAN SPEED
LOW 620
MEDIUM 685
HIGH 1110AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	21	0	0
R/A	0	0	6	0	0

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

All S/A runs 5'x2' 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	BED-4	BED-4	BED-4	LOFT	ENS-2	ENS-3	BED-5	LND
RM LOSS MBH	1.78	1.78	0.98	0.98	0.87	0.81	1.03	1.03	1.51	1.51	1.79	1.79	1.79	1.87	1.03	1.85	0.78	0.31
CFM PER RUN HEAT	64	64	35	35	31	29	37	37	54	54	64	64	64	67	37	67	28	11
RM GAIN MBH	2.40	2.40	0.68	0.68	0.39	0.39	1.13	1.13	1.88	1.88	2.61	2.61	2.61	1.72	0.41	1.37	1.76	1.18
CFM PER RUN COOLING	74	74	21	21	12	12	35	35	58	58	80	80	80	53	13	42	54	36
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	52	63	48	16	51	19	72	77	78	69	66	66	73	84	65	64	75	46
EQUIVALENT LENGTH	210	190	255	130	245	120	170	180	140	190	180	190	170	190	170	180	160	130
TOTAL EFFECTIVE LENGTH	262	253	303	146	296	139	242	257	218	259	249	256	243	274	235	244	235	176
ADJUSTED PRESSURE	0.07	0.07	0.06	0.12	0.06	0.12	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.1
ROUND DUCT SIZE	6	6	4	4	4	4	4	4	6	6	6	6	6	6	4	6	5	4
HEATING VELOCITY (ft/min)	326	326	402	402	356	333	424	424	275	275	326	326	326	342	326	342	206	126
COOLING VELOCITY (ft/min)	377	377	241	241	138	138	402	402	296	296	408	408	408	270	149	214	396	413
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	4X10	3X10	4X10
TRUNK	C	C	C	C	C	C	B	B	B	A	A	A	A	B	B	A	A	B

TEMPERATURE RISE 40 °F

RUN #	37	38	39
ROOM NAME	BED-3	BED-4	ENS-4
RM LOSS MBH	1.51	1.79	0.50
CFM PER RUN HEAT	54	64	18
RM GAIN MBH	1.88	2.61	0.13
CFM PER RUN COOLING	58	80	4
ADJUSTED PRESSURE	0.17	0.17	0.17
ACTUAL DUCT LGH	67	71	70
EQUIVALENT LENGTH	190	170	200
TOTAL EFFECTIVE LENGTH	257	241	270
ADJUSTED PRESSURE	0.07	0.07	0.06
ROUND DUCT SIZE	6	6	4
HEATING VELOCITY (ft/min)	275	326	207
COOLING VELOCITY (ft/min)	296	408	46
OUTLET GRILL SIZE	4X10	4X10	3X10
TRUNK	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)	RETURN AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	477	0.06	11.4	16	8	0	0.00	0	0	8	TRUNK O	0	0.05	0	0	8
TRUNK B	720	0.06	13.3	22	8	0	0.00	0	0	8	TRUNK P	0	0.05	0	0	8
TRUNK C	978	0.06	14.9	26	8	0	0.00	0	0	8	TRUNK Q	0	0.05	0	0	8
TRUNK D	0	0.00	0	0	8	0	0.00	0	0	8	TRUNK R	0	0.05	0	0	8
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	8	TRUNK S	0	0.05	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8	TRUNK T	0	0.05	0	0	8
											TRUNK U	0	0.05	0	0	8
											TRUNK V	0	0.05	0	0	8
											TRUNK W	0	0.05	0	0	8
											TRUNK X	825	0.05	14.7	26	8
											TRUNK Y	450	0.05	11.7	16	8
											TRUNK Z	155	0.05	7.8	8	8
											DROP	980	0.05	15.7	24	10
RETURN AIR #	1	2	3	4	5	8					BR					
AIR VOLUME	155	115	115	115	335	0	0	145	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
ACTUAL DUCT LGH	62	78	79	75	69	1	1	59	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	170	235	195	245	230	0	0	165	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	232	313	274	320	299	1	1	224	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ROUND DUCT SIZE	7.5	7	7	7	10.5	0	0	7	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
INLET GRILL SIZE	14	14	14	14	30	0	0	14	0	0	0	0	0	0	0	0

Michael O'Rourke

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

LO # 96708
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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	212.0 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	212	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	62.0	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#: 96708	Model: 5013 - ELEV C - RIVERVIEW	Builder: GOLD PARK HOMES	Date: 2022-05-05																																																								
Volume Calculation		Air Change & Delta T Data																																																									
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5.2.3.1 Heat Loss due to Air Leakage		6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																									
0.340	x 545.93 x 42 °C x 1.2 =	0.114	x 545.93 x 7 °C x 1.2 =																																																								
	= 9406 W		= 533 W																																																								
	= 32093 Btu/h		= 1817 Btu/h																																																								
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$		$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																									
300 CFM	x 76 °F x 1.08 x 0.25 =	300 CFM	x 13 °F x 1.08 x 0.25 =																																																								
	= 6156 Btu/h		= 1,037 Btu/h																																																								
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																											
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvel} + HL_{bgclvel})\}$																																																											
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*HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HL_{airve} = 0																																																											
Michael O'Rourke BCIN# 19669 																																																											

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	5013 - ELEV C - RIVERVIEW	OPT 5 BED	BUILDER:	GOLD PARK HOMES
SFQT:	4502	LO#	96708	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):	69405.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	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

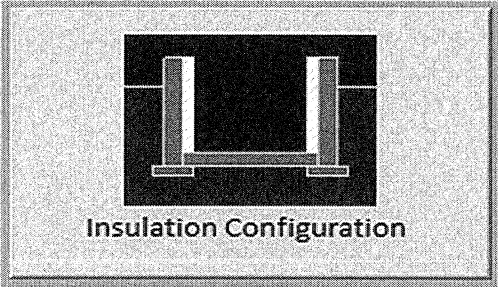
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement 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		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 - ELEV C - RIVERVIEW
LO# 96708

OPT 5 BED

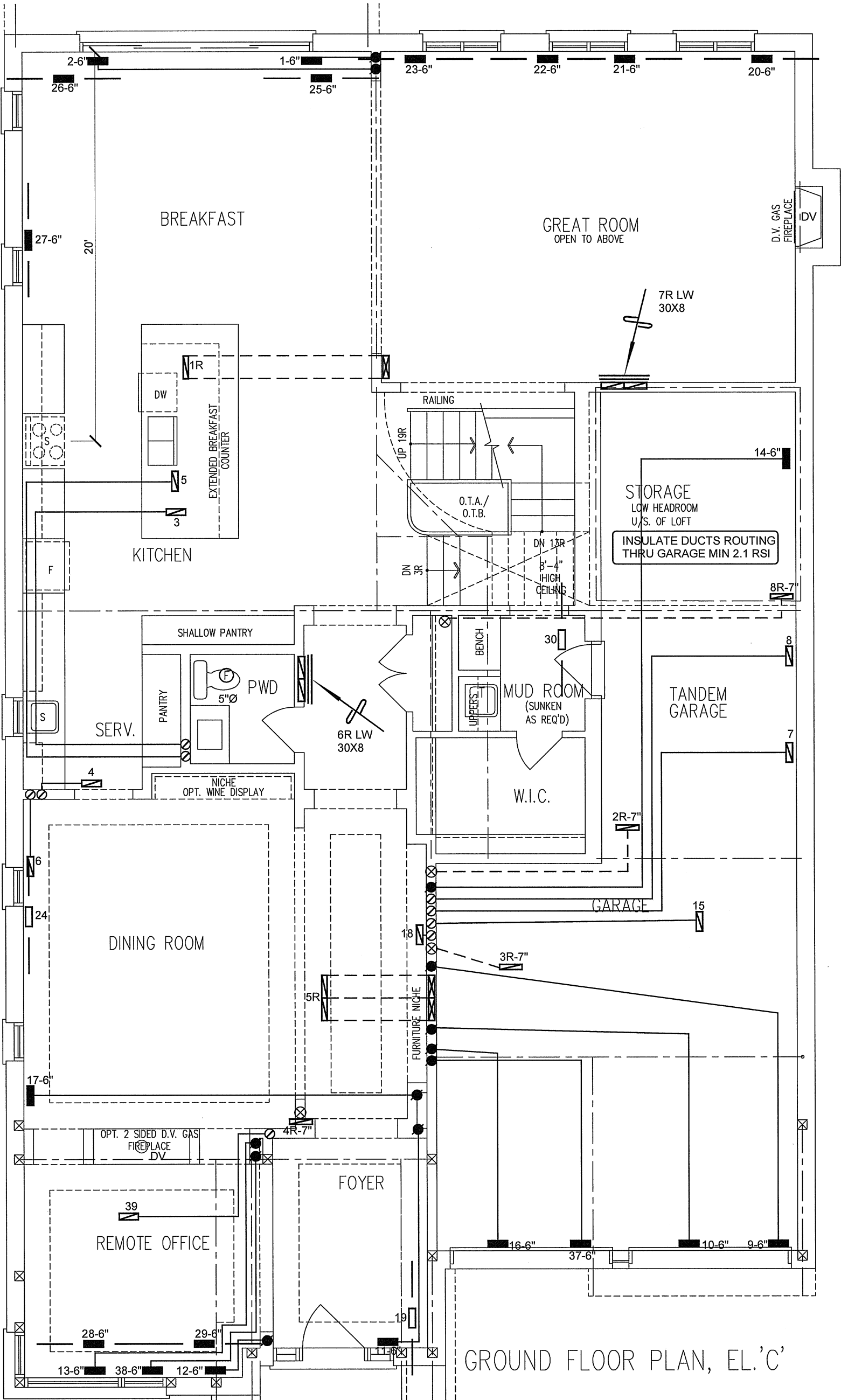
Air Infiltration Residential Load Calculator

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):	1965.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2619.8 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 - ELEV C - RIVERVIEW
LO# 96708

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.

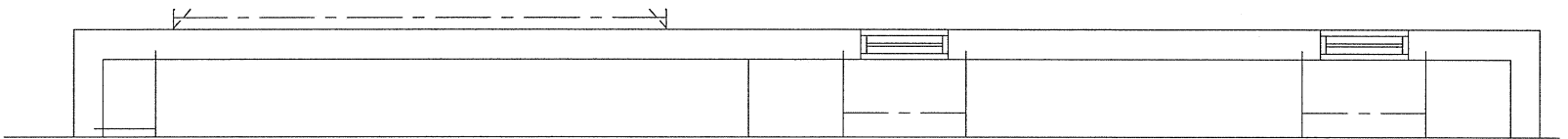
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD
WOD
CSA-F280-12
PACKAGE A1

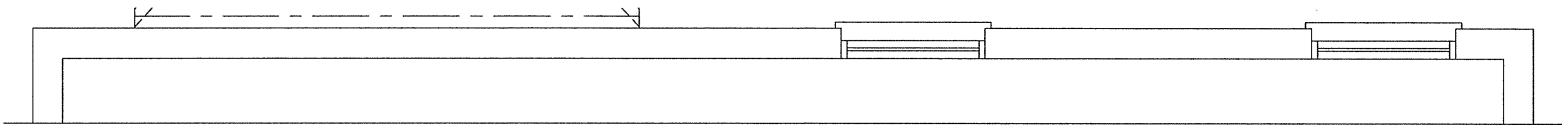
HVAC LEGEND					3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x6" RETURN AIR GRILLE	1.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x6" RETURN AIR GRILLE	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	
	SUPPLY AIR BOOT ABOVE		RETURN AIR STACK ABOVE		RETURN AIR STACK 2nd FLOOR	
	SUPPLY AIR BOOT ABOVE		REDUCER			
REVISIONS					No.	Description
						Date

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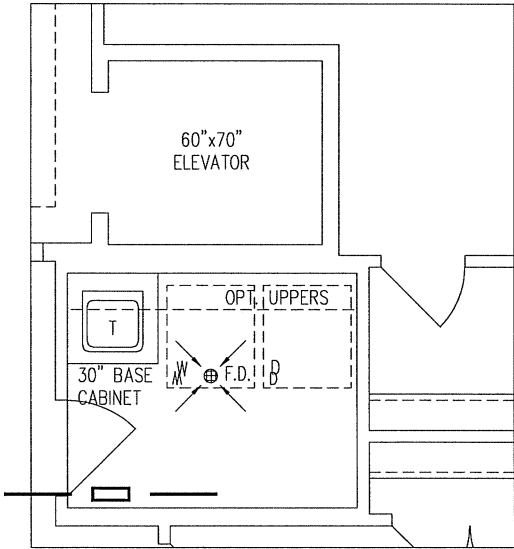
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets 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	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
RIVERVIEW - OPT 5 BED 5013 - ELEV C 4502 sqft		BCIN# 19669		
		LO#	96708	



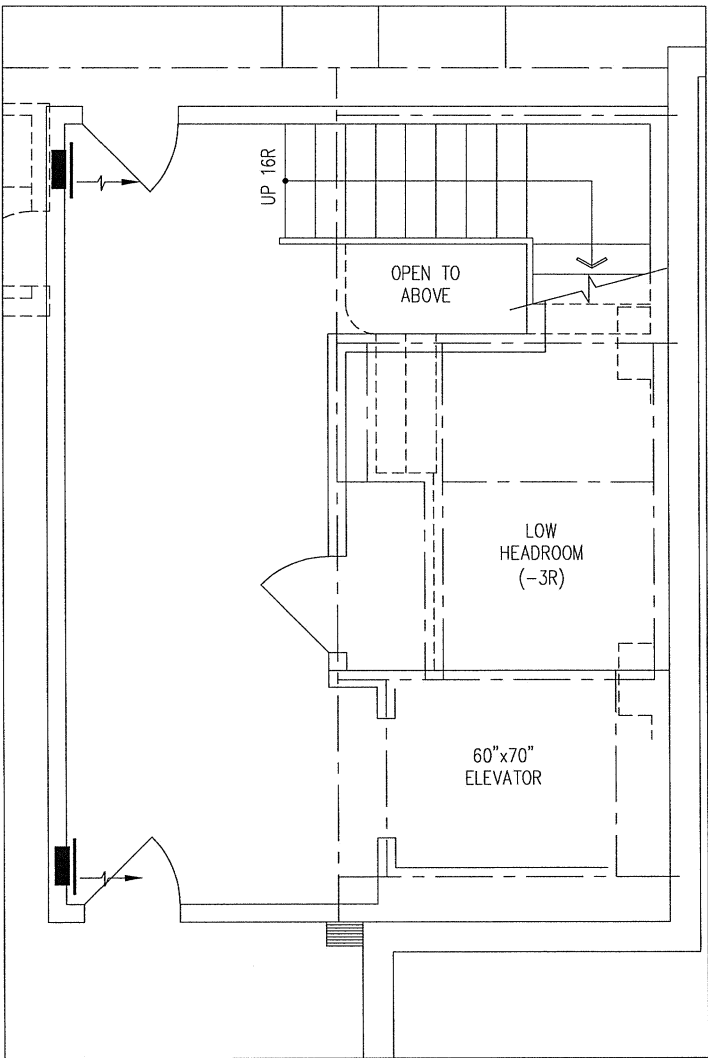
PART. BASEMENT PLAN ELEV. 'C' - W.O.D. COND.



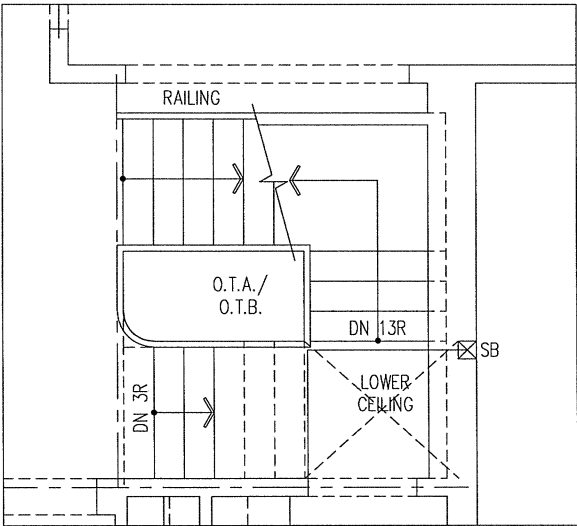
PART. BASEMENT PLAN ELEV. 'C' - L.O.D. COND.



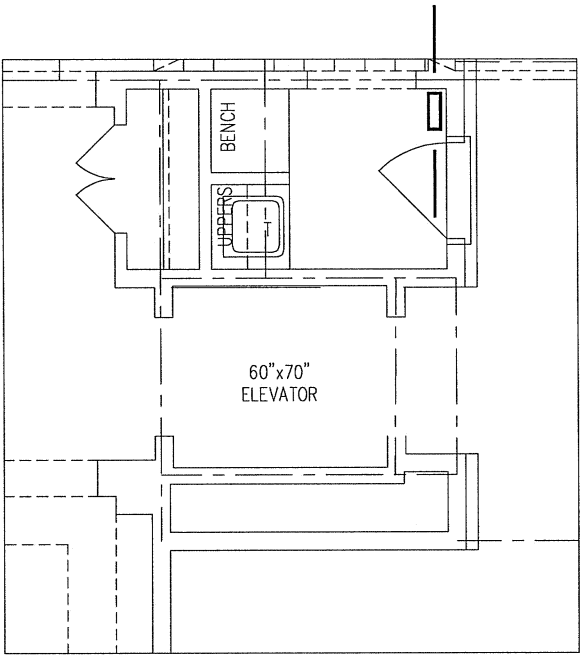
PART. OPT. 5 BEDROOM
SECOND FLOOR W/ ELEVATOR,
EL. 'C'



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



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



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

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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USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE
USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE
ONTARIO BUILDING CODE.

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	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		Date
			FRA-FLOOR RETURN AIR GRILLE	REVISIONS	
			RETURN AIR STACK ABOVE		
			RETURN AIR STACK 2nd FLOOR		
			REDUCER		

Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO**

**RIVERVIEW - OPT 5 BED
5013 - ELEV C 4502 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@hvacdsgns.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# **96708**