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	**Postal code**	**Plan number/ other description**		
VAUGHAN (WOODBRIDGE)				

B. Individual who reviews and takes responsibility for design activities

Name		Firm		
MICHAEL O'ROURKE		**HVAC DESIGNS LTD.**		
Street address			Unit no.	Lot/con.
375 FINLEY AVE			**202**	**N/A**
Municipality	Postal code	Province	E-mail	
AJAX	**L1S 2E2**	**ONTARIO**	**info@hvacdesigns.ca**	
Telephone number	Fax number		Cell number	
(**905**) **619-2300**	(**905**) **619-2375**		( )	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]

❑ House	☒ HVAC – House	❑ Building Structural
❑ Small Buildings	❑ Building Services	❑ Plumbing – House
❑ Large Buildings	❑ Detection, Lighting and Power	❑ Plumbing – All Buildings
❑ Complex Buildings	❑ Fire Protection	❑ 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:** 6001 - QUEENSLAND - ELEV C OPT ELEVATOR - WOB **Project:** PINE VALLEY PH 2

D. Declaration of Designer

I **MICHAEL O'ROURKE** 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 Di vision C, of the Building Code.

Individual BCIN: 19669
Basis for exemption from registration and qualification: O.B.C SENTENCE 3.2.4.1 (4)

❑ 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

Michael O'Rourke
Signature of Designer

NOTE:

1. 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.
2. 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.

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SITE NAME: PINE VALLEY PH 2 | OPT ELEVATOR - WOB | DATE Apr-22 | WINTER NATURAL AIR CHANGE RATE 0.486 | HEAT LOSS ΔT °F. 76 | CSA-F280-12
BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND - ELEV C | GFA: 5401 | LO# 96171 | SUMMER NATURAL AIR CHANGE RATE 0.162 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			GREAT			KIT			DIN			LIBR			FOY			MUD		
EXP. WALL			50			56			25			33			43			29		
CLG. HT.			20			11			11			11			11			13		
	FACTORS																			
GRS.WALL AREA	LOSS	GAIN	980			594			265			350			456			365		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	21.3	16.0	46	979	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	0	65	1383	2701	20	426	831	0	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	41	872	1021	18	383	448	0	0	0	0	0	0
WEST	21.3	41.6	134	2852	5568	134	2852	5568	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0	35	884	149	20	505	85
NET EXPOSED WALL	4.5	0.8	800	3570	601	460	2051	345	224	1000	168	267	1191	201	401	1789	301	345	1541	260
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	430	552	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	10	27	13	0	0	0	0	0	0	10	27	13	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0	
SUBTOTAL HT LOSS				7980			4903			1872			2984			3098			2046	
SUB TOTAL HT GAIN					7169			5913			1189			3362			1281			345
LEVEL FACTOR / MULTIPLIER			0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70	
AIR CHANGE HEAT LOSS				5576			3426			1308			2085			2165			1430	
AIR CHANGE HEAT GAIN					561			462			93			263			100			27
DUCT LOSS				0			0			0			0			0			0	
DUCT GAIN					0			0			0			0			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					1028			1028			1028			1028			0			0
TOTAL HT LOSS BTU/H				13556			8328			3180			5070			5263			3476	
TOTAL HT GAIN x 1.3 BTU/H					11386			9625			3004			6049			1796			483

ROOM USE			WOB			BAS		
EXP. WALL			67			175		
CLG. HT.			10			10		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	643			1680		
GLAZING				LOSS	GAIN		LOSS	GAIN
NORTH	21.3	16.0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	3	64	75
WEST	21.3	41.6	163	3469	6773	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0
DOORS	25.2	4.3	20	505	85	20	505	85
NET EXPOSED WALL	4.5	0.8	460	2054	346	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS							2855	
SLAB ON GRADE HEAT LOSS				1085				
SUBTOTAL HT LOSS				7113			3424	
SUB TOTAL HT GAIN					7204			160
LEVEL FACTOR / MULTIPLIER						0.50	2.53	
AIR CHANGE HEAT LOSS							26650	
AIR CHANGE HEAT GAIN								576
DUCT LOSS							0	
DUCT GAIN								0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS								
TOTAL HT LOSS BTU/H				8198			30073	
TOTAL HT GAIN x 1.3 BTU/H					9365			956

TOTAL HEAT GAIN BTU/H: 85320 TONS: 7.11 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 110309 TOTAL COMBINED HEAT LOSS BTU/H: 116465

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: PINE VALLEY PH 2 | OPT ELEVATOR - WOB | DATE Apr-22 | WINTER NATURAL AIR CHANGE RATE 0.486 | HEAT LOSS ΔT °F. 76 | CSA-F280-12

BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND - ELEV C GFA: 5401 | LO# 96171 | SUMMER NATURAL AIR CHANGE RATE 0.162 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS			BED-2			BED-3			BED-4			BED-5			ENS-2			ENS-3			ENS-4			ENS-5		
EXP. WALL			20			32			18			20			35			16			6			18			10			6		
CLG. HT.			10			9			9			10			10			9			9			9			9			9		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	200			288			162			200			350			144			54			162			90			54		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	21.3	16.0	0	0	0	0	0	0	38	809	607	18	383	288	0	0	0	0	0	0	8	170	128	0	0	0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	0	65	1383	2701	65	1383	2701	0	0	0	0	0	0	10	213	416	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	22	468	548	0	0	0	0	0	0	18	383	448	19	404	473	0	0	0	0	0	0	8	170	199	8	170	199
WEST	21.3	41.6	42	894	1745	8	170	332	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	101.5	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	4.3	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	0.8	158	705	119	258	1151	194	124	553	93	117	522	88	267	1192	201	125	558	94	46	205	35	152	678	114	82	366	62	46	205	35
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	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	380	488	223	240	308	141	438	562	257	323	415	190	268	344	157	304	390	179	66	85	39	72	92	42	80	103	47	72	92	42
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	55	151	69	55	151	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	200	510	86	228	581	98	0	0	0	0	0	0	66	168	28	72	184	31	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2087			2098			2434			3436			3453			1352			629			1167			639			468	
SUB TOTAL HT GAIN					2087			1215			1044			3433			3576			746			229			603			308			276
LEVEL FACTOR / MULTIPLIER			0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50		0.20	0.50	
AIR CHANGE HEAT LOSS				1042			1047			1215			1715			1724			675			314			583			319			234	
AIR CHANGE HEAT GAIN					163			95			82			268			280			58			18			47			24			22
DUCT LOSS				0			0			365			515			0			0			94			175			0			0	
DUCT GAIN					0			0			239			497			0			0			128			168			0			0
HEAT GAIN PEOPLE	240		2		480	0		0	1		240	1		240	1		240	1		240	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					1028			0			1028			1028			1028			1028			1028			1028			1028			1028
TOTAL HT LOSS BTU/H				3128			3145			4014			5666			5176			2027			1037			1925			958			702	
TOTAL HT GAIN x 1.3 BTU/H					4886			1703			3422			7107			6662			2694			1824			2400			1768			1724

ROOM USE			LAUN			HALL		
EXP. WALL			0			18		
CLG. HT.			9			10		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	0			180		
GLAZING			LOSS	GAIN		LOSS	GAIN	
NORTH	21.3	16.0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	44	936	1828
SOUTH	21.3	24.9	0	0	0	0	0	0
WEST	21.3	41.6	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	24	894	2437
DOORS	25.2	4.3	0	0	0	30	757	128
NET EXPOSED WALL	4.5	0.8	0	0	0	106	473	80
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	84	108	49	224	287	132
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	50	137	63
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0	
SLAB ON GRADE HEAT LOSS				0			0	
SUBTOTAL HT LOSS				108			3486	
SUB TOTAL HT GAIN					49			4667
LEVEL FACTOR / MULTIPLIER			0.20	0.50		0.20	0.50	
AIR CHANGE HEAT LOSS				54			1740	
AIR CHANGE HEAT GAIN					4			365
DUCT LOSS				0			0	
DUCT GAIN					0			0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					1028			0
TOTAL HT LOSS BTU/H				162			5225	
TOTAL HT GAIN x 1.3 BTU/H					1406			6542

TOTAL HEAT GAIN BTU/H: 85320 **TONS:** 7.11 **LOSS DUE TO VENTILATION LOAD BTU/H:** 6156 **STRUCTURAL HEAT LOSS:** 110309 **TOTAL COMBINED HEAT LOSS BTU/H:** 116465

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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SITE NAME: PINE VALLEY PH 2 — OPT ELEVATOR - WOB
BUILDER: GOLD PARK HOMES — TYPE: 6001 - QUEENSLAND - ELEV C — DATE: Apr-22 — GFA: 5401 — LO# 96171 — **FURNACE 1**

HEATING CFM	1340	COOLING CFM	1340
TOTAL HEAT LOSS	77,144	TOTAL HEAT GAIN	42,664
AIR FLOW RATE CFM	17.37	AIR FLOW RATE CFM	31.41

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

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 80222 BTUH

$*LENNOX
ML196UH090XE48C 90

FAN SPEED	
LOW	0
MEDLOW	1080
MEDIUM	1190
MEDIUM HIGH	1340
HIGH	1575

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = **85,600**
DESIGN CFM = **1340**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 59 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	16	9
R/A	0	0	0	3	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	18	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.71	2.71	2.71	2.71	2.71	2.08	2.08	2.08	2.08	1.59	1.59	1.69	1.69	1.69	5.26	3.48	4.25	4.25	4.25	4.25
CFM PER RUN HEAT	47	47	47	47	47	36	36	36	36	28	28	29	29	29	91	60	74	74	74	74
RM GAIN MBH.	2.28	2.28	2.28	2.28	2.28	2.41	2.41	2.41	2.41	1.50	1.50	2.02	2.02	2.02	1.80	0.48	1.15	1.15	1.15	1.15
CFM PER RUN COOLING	72	72	72	72	72	76	76	76	76	47	47	63	63	63	56	15	36	36	36	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	0.16	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	74	89	83	78	72	67	59	45	46	46	10	22	27	31	40	48	82	56	65	71
EQUIVALENT LENGTH	140	130	150	160	130	130	140	170	110	120	150	150	130	120	140	150	130	120	120	140
TOTAL EFFECTIVE LENGTH	214	219	233	238	202	197	199	215	156	166	160	172	157	151	180	198	212	176	185	211
ADJUSTED PRESSURE	0.08	0.08	0.07	0.07	0.09	0.09	0.09	0.08	0.11	0.1	0.11	0.1	0.11	0.11	0.09	0.09	0.08	0.1	0.09	0.08
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	5	5	5	5	5	**6**	5	**6**	**6**	**6**	**6**
HEATING VELOCITY (ft/min)	240	240	240	240	240	184	184	184	184	206	206	213	213	213	464	441	377	377	377	377
COOLING VELOCITY (ft/min)	367	367	367	367	367	388	388	388	388	345	345	463	463	463	286	110	184	184	184	184
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	B	B	B	C	D	D	D	E	E	E	E	D	C	C	B	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.25	4.25	4.25	4.25	4.25
CFM PER RUN HEAT	74	74	74	74	74
RM GAIN MBH.	1.15	1.15	1.15	1.15	1.15
CFM PER RUN COOLING	36	36	36	36	36
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	39	44	23	41	58
EQUIVALENT LENGTH	140	160	100	130	150
TOTAL EFFECTIVE LENGTH	179	204	123	171	208
ADJUSTED PRESSURE	0.1	0.08	0.14	0.1	0.08
ROUND DUCT SIZE	5	5	5	5	**6**
HEATING VELOCITY (ft/min)	543	543	543	543	377
COOLING VELOCITY (ft/min)	264	264	264	264	184
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10
TRUNK	D	E	E	E	B

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	262	0.07	8.8	8	x	10	472	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	529	0.07	11.4	14	x	10	544	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	184	0.08	7.4	8	x	8	414	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	939	0.07	14.2	18	x	12	626	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	400	0.08	9.9	12	x	8	600	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	430	0.06	11	14	x	8	553
TRUNK X	910	0.06	14.5	16	x	12	683
TRUNK Y	580	0.06	12.3	12	x	10	696
TRUNK Z	275	0.06	9.3	10	x	8	495
DROP	1340	0.06	16.8	24	x	12	670

RETURN AIR #	1	2	3														**BR**
AIR VOLUME	275	305	430	0	0	0	0	0	0	0	0	0	0	0	0	0	330
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
ACTUAL DUCT LGH.	76	47	41	1	1	1	1	1	1	1	1	1	1	1	1	1	19
EQUIVALENT LENGTH	180	165	140	0	0	0	0	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	256	212	181	1	1	1	1	1	1	1	1	1	1	1	1	1	164
ADJUSTED PRESSURE	0.06	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	9.3	9.3	10.2	0	0	0	0	0	0	0	0	0	0	0	0	0	9
INLET GRILL SIZE	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30

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Michael O'Rourke — INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

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

OPT ELEVATOR - WOB
TYPE: 6001 - QUEENSLAND - ELEV C DATE: Apr-22

GFA: 5401 LO# 96171

FURNACE 2

HEATING CFM 1270 | COOLING CFM 1270
TOTAL HEAT LOSS 33,164 | TOTAL HEAT GAIN 42,138
AIR FLOW RATE CFM 38.29 | AIR FLOW RATE CFM 30.14

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

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 36242 BTUH

$*LENNOX
ML196UH070XE48B **70**
FAN SPEED

LOW	0
MEDLOW	1070
MEDIUM	1270
MEDIUM HIGH	1515
HIGH	1595

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = **63,900**
DESIGN CFM = **1270**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	22	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"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
ROOM NAME	MBR	MBR	MBR	ENS	ENS	BED-2	BED-2	ENS-2	BED-3	BED-3	BED-3	ENS-3	BED-4	BED-4	BED-4	ENS-4	BED-5	BED-5	ENS-5	LAUN	HALL	HALL
RM LOSS MBH.	1.04	1.04	1.04	2.36	0.79	2.01	2.01	1.04	1.89	1.89	1.89	1.92	1.73	1.73	1.73	0.96	1.01	1.01	0.70	0.16	2.61	2.61
CFM PER RUN HEAT	40	40	40	90	30	77	77	40	72	72	72	74	66	66	66	37	39	39	27	6	100	100
RM GAIN MBH.	1.63	1.63	1.63	1.28	0.43	1.71	1.71	1.82	2.37	2.37	2.37	2.40	2.22	2.22	2.22	1.77	1.35	1.35	1.72	1.41	3.27	3.27
CFM PER RUN COOLING	49	49	49	39	13	52	52	55	71	71	71	72	67	67	67	53	41	41	52	42	99	99
ADJUSTED PRESSURE	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	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH.	67	72	83	75	69	85	95	102	79	85	91	86	37	30	42	32	24	28	67	82	34	48
EQUIVALENT LENGTH	150	160	220	180	180	160	170	180	170	180	170	160	170	150	140	200	210	180	180	190	110	140
TOTAL EFFECTIVE LENGTH	217	232	303	255	249	245	265	282	249	265	261	246	207	180	182	232	234	208	247	272	144	188
ADJUSTED PRESSURE	0.08	0.07	0.06	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.07	0.07	0.08	0.1	0.09	0.07	0.07	0.08	0.07	0.06	0.11	0.09
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	4	**6**	**6**	5	**6**	**6**	**6**	**6**	5	5	5	5	4	4	5	5	**6**	**6**
HEATING VELOCITY (ft/min)	204	204	204	459	344	393	393	294	367	367	367	377	485	485	485	272	447	447	198	44	510	510
COOLING VELOCITY (ft/min)	250	250	250	199	149	265	265	404	362	362	362	367	492	492	492	389	470	470	382	308	505	505
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10
TRUNK	B	B	A	B	B	A	A	A	C	C	C	b	D	D	D	C	C	C	B	b	D	D

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	234	0.06	8.7	8	x	10	421	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	541	0.06	12	12	x	10	649	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	872	0.06	14.3	16	x	12	654	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	398	0.08	9.9	12	x	8	597	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	550	0.05	12.6	14	x	10	566
TRUNK X	925	0.05	15.3	18	x	12	617
TRUNK Y	720	0.05	13.9	14	x	12	617
TRUNK Z	345	0.05	10.6	10	x	10	497
DROP	1270	0.05	17.3	24	x	12	635

RETURN AIR #	1	2	3	4	5	6											**BR**
AIR VOLUME	230	115	260	185	115	365	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
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	230	215	195	185	225	190	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.05	0.06	0.06	0.05	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	
ROUND DUCT SIZE	9.1	7	9.1	8	7	10.3	0	0	0	0	0	0	0	0	0	0	
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
INLET GRILL SIZE	30	14	30	24	14	30	0	0	0	0	0	0	0	0	0	0	

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TYPE: 6001 - QUEENSLAND - ELEV C LO # 96171
SITE NAME: PINE VALLEY PH 2 OPT ELEVATOR - WOB

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 @ 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: Michael O'Rourke.

HRAI # 001820

Date: April-22

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 96171 Model: 6001 - QUEENSLAND - ELEV C Builder: GOLD PARK HOMES Date: 4/14/2022

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	2581	10	24777.6
First	2581	11	27358.6
Second	3175	9	28575
Third	0	9	0
Fourth	0	9	0
		Total:	80,711.2 ft³
		Total:	2285.5 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.486
SUMMER NATURAL AIR CHANGE RATE	0.162

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-20	42	76
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.486 x 634.86 x 42 °C x 1.2 = 15621 W

= **53299 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

= 0.162 x 634.86 x 7 °C x 1.2 = 876 W

= **2989 Btu/h**

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

x 2 HRV / ERV's

300 CFM x 76 °F x 1.08 x 0.25 = **6156 Btu/h**

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

300 CFM x 13 °F x 1.08 x 0.25 = **1,037 Btu/h**

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HLairve 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	53,299	10,536	2.529
2	0.3		22,883	0.699
3	0.2		21,355	0.499
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss
*For a balanced or supply only ventilation system HLairve = 0

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND - ELEV C OPT ELEVATOR - WOB **BUILDER:** GOLD PARK HOMES
SFQT: 5401 **LO#** 96171 **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 (ft^3):	80711.2	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.85	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	8.1 ft
LENGTH: 66.0 ft	WIDTH: 55.0 ft	EXPOSED PERIMETER:	175.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	67.0 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

Michael O'Rourke

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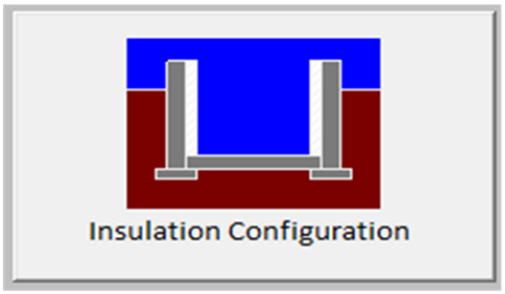
Residential Foundation Thermal Load Calculator

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)

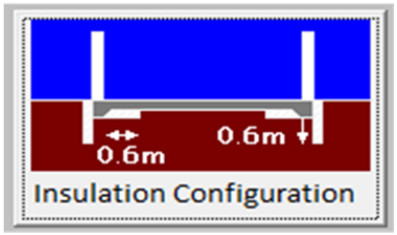
Foundation Dimensions		
Floor Length (m):	**4.9**	 Insulation Configuration
Floor Width (m):	**16.8**	
Exposed Perimeter (m):	**53.3**	
Wall Height (m):	**2.9**	
Depth Below Grade (m):	**2.19**	
Window Area (m^2):	**0.3**	
Door Area (m^2):	**1.9**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**836**	

TYPE: 6001 - QUEENSLAND - ELEV C OPT ELEVATOR - WOB
LO# 96171

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Slab on Grade 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		
Length (m):	**1.8**	
Width (m):	**16.8**	
Exposed Perimeter (m):	**20.4**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Results		
Heating Load (Watts):	**318**	

TYPE: 6001 - QUEENSLAND - ELEV C OPT ELEVATOR - WOB
LO# 96171

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	11.95
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	2285.5
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 3046.6 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 70.8 / Total Exhaust 70.8
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.486**
Cooling Air Leakage Rate (ACH/H):	**0.162**

TYPE: 6001 - QUEENSLAND - ELEV C OPT ELEVATOR - WOB

LO# 96171

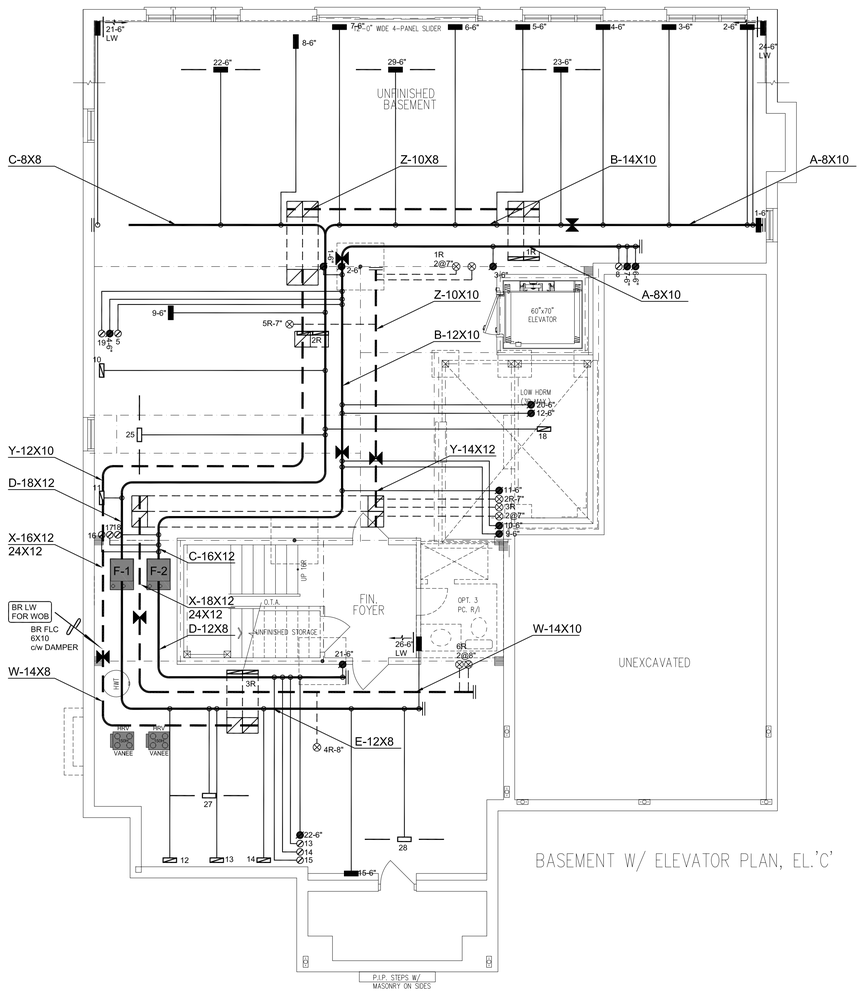
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

FURNACE 1 (F-1)
LENNOX ML196UH090XE48C
85600 BTU/H OUTPUT
3.5 TONS A/C @ 1340 cfm

FURNACE 2 (F-2)
LENNOX ML196UH070XE48B
63900 BTU/H OUTPUT
3.5 TONS A/C @ 1270 cfm

	S/A	R/A	FANS
2ND	22	6	7
1ST	16	3	2
BAS	9	1	0



BASEMENT W/ ELEVATOR PLAN, EL.'C'

HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
Ⓔ	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

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, BCIN# 19669
HVAC DESIGNS LTD.

No.	Revision	Date	By
1	ISSUED FOR PERMIT	APRIL 2022	EG

SB-12 PACKAGE

A1

HVAC DESIGNS LTD.
375 Finley Ave - Unit 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

Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
OPT ELEVATOR - WOB
5401 SQFT

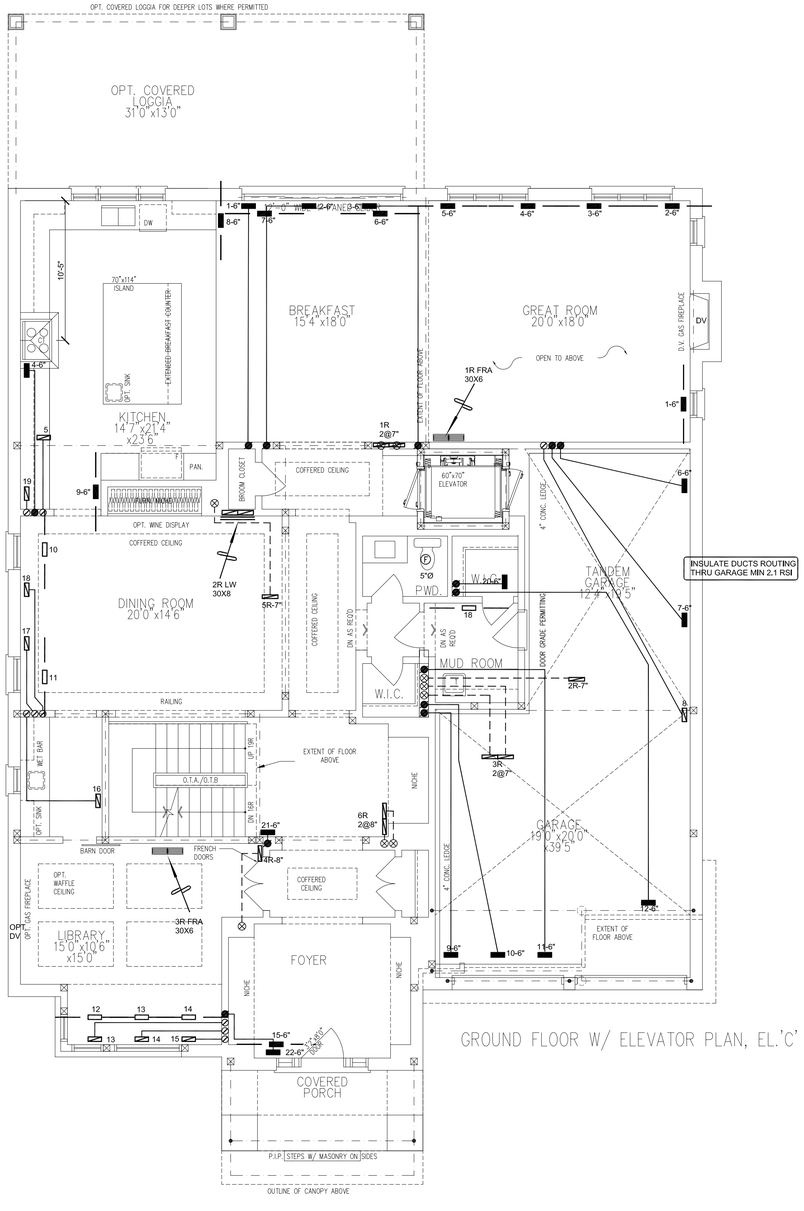
Sheet Title: BASEMENT HVAC LAYOUT

Drawn By	EG	Checked By	MO
Scale	3/16"=1'-0"	Sheet No.	1
Date	APRIL 2022		
LO #	96175		

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

	S/A	R/A	FANS
2ND	22	6	7
1ST	16	3	2
BAS	9	1	0



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

HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
F	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

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No.	Revision	Date	By
1	ISSUED FOR PERMIT	APRIL 2022	EG

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Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO

6001 - QUEENSLAND - ELEV C
OPT ELEVATOR - WOB
5401 SQFT

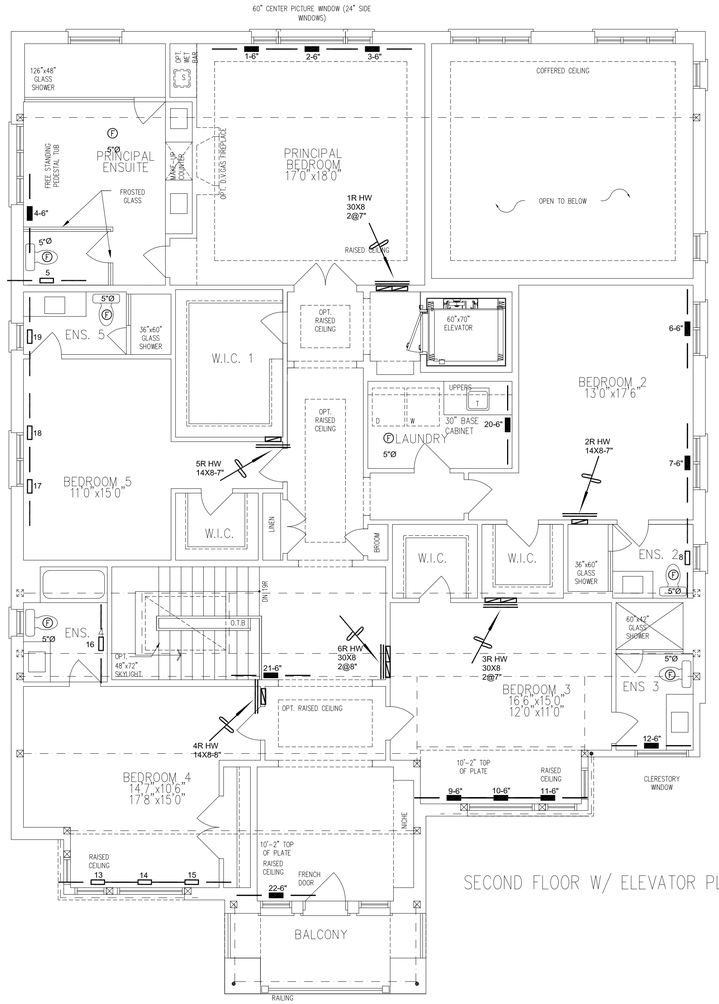
Sheet Title: FIRST FLOOR HVAC LAYOUT

Drawn By	EG	Checked By	MO
Scale	3/16"=1'-0"	Sheet No.	2
Date	APRIL 2022		
LO #	96175		

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

	S/A	R/A	FANS
2ND	22	6	7
1ST	16	3	2
BAS	9	1	0



SECOND FLOOR W/ ELEVATOR PLAN, EL.'C'

HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
Ⓕ	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

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, BCIN# 19669
HVAC DESIGNS LTD.

No.	Revision	Date	By
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Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
OPT ELEVATOR - WOB
5401 SQFT

Sheet Title: SECOND FLOOR HVAC LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Sheet No.: 3
Date: APRIL 2022
LO.# 96175