

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: 6001 - QUEENSLAND OPT ELEVATOR - WOB 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.			
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										OPT ELEVATOR - WOB										DATE Apr-22										WINTER NATURAL AIR CHANGE RATE 0.486										HEAT LOSS AT °F. 76										CSA-F280-12																			
BUILDER: GOLD PARK HOMES										TYPE: 6001 - QUEENSLAND										GFA: 5312										LO# 96167										SUMMER NATURAL AIR CHANGE RATE 0.162										HEAT GAIN AT °F. 13										SB-12 PACKAGE A1									
ROOM USE				GREAT				KIT				DIN				LIBR				FOY				MUD																																													
EXP. WALL				50				56				25				35				38				29																																													
CLG. HT.				20				11				11				11				21				13																																													
FACTORS																																																																					
GRS.WALL AREA		LOSS GAIN		980				594				265				371				783				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	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	0	0	58	1234	2410	80	1702	3324	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																			
SOUTH		21.3	24.9	0	0	0	0	0	0	0	0	41	872	1021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	20	505	85	50	1262	213	20	505	85	0	0	0	0	0	0	0	0	0	0	0																																			
NET EXPOSED WALL		4.5	0.8	800	3570	601	460	2051	345	224	1000	168	293	1308	220	653	2913	491	345	1541	260	0	0	0	0	0	0	0	0	0	0	0	0	0																																			
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	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	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	204	561	257	0	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	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																																			
BASEMENT/CRAWL HEAT LOSS																																																																					
SLAB ON GRADE HEAT LOSS																																																																					
SUBTOTAL HT LOSS				7980				4903				1872				3074				6439				2046																																													
SUB TOTAL HT GAIN				7169				5913				1189				2728				4284				345																																													
LEVEL FACTOR / MULTIPLIER		0.30	0.61					0.30	0.61					0.30	0.61					0.30	0.61																																																
AIR CHANGE HEAT LOSS				4858				2985				1140				1872				3920				1246																																													
AIR CHANGE HEAT GAIN				579				477				96				220				346				28																																													
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																																													
HEAT GAIN APPLIANCES/LIGHTS				1546				1546				1546				1546				0				0																																													
TOTAL HT LOSS BTU/H				12838				7887				3012				4946				10359				3292																																													
TOTAL HT GAIN x 1.3 BTU/H				12082				10317				3680				5842				6019				484																																													

ROOM USE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

ROOM USE	LAUN			HALL		
EXP. WALL	0			0		
CLG. HT.	9			9		
FACTORS						
GRS.WALL AREA	LOSS	GAIN	0	0	0	0
GLAZING	LOSS	GAIN	0	0	0	0
NORTH	21.3	16.0	0	0	0	0
EAST	21.3	41.6	0	0	0	0
SOUTH	21.3	24.9	0	0	0	0
WEST	21.3	41.6	0	0	0	0
SKYLT.	37.2	101.5	0	0	24	894 2437
DOORS	25.2	4.3	0	0	0	0
NET EXPOSED WALL	4.5	0.8	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0
EXPOSED CLG	1.3	0.6	84	108	49	103 132 61
NO ATTIC EXPOSED FLOOR	2.7	1.3	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0		0	
SLAB ON GRADE HEAT LOSS			0		0	
SUBTOTAL HT LOSS			108		1026	
SUB TOTAL HT GAIN			49		2498	
LEVEL FACTOR / MULTIPLIER	0.20	0.58		0.20	0.58	
AIR CHANGE HEAT LOSS			62		594	
AIR CHANGE HEAT GAIN			4		202	
DUCT LOSS			0		0	
DUCT GAIN			0		0	
HEAT GAIN PEOPLE	240	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS			1546		0	
TOTAL HT LOSS BTU/H			170		1620	
TOTAL HT GAIN x 1.3 BTU/H			2079		3509	

TOTAL COMBINED HEAT LOSS BTU/H: 117145

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

OPT ELEVATOR - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5312 LO# 96167

FURNACE 1

HEATING CFM 1575 COOLING CFM 1575
TOTAL HEAT LOSS 80,638 TOTAL HEAT GAIN 49,032
AIR FLOW RATE CFM 19.53 AIR FLOW RATE CFM 32.12

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

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 83716 BTUH**
\$*LENNOX
ML196UH090XE48C

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 = **1575**

CFM @ .6" E.S.P.

TEMPERATURE RISE 50 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	18	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	16	17	18	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	FOY	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.57	2.57	2.57	2.57	2.57	1.97	1.97	1.97	1.97	1.51	1.51	1.65	1.65	1.65	3.45	3.45	3.45	3.29	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	50	50	50	50	50	39	39	39	39	29	29	32	32	32	67	67	67	64	83	83	83	83
RM GAIN MBH.	2.42	2.42	2.42	2.42	2.42	2.58	2.58	2.58	2.58	1.84	1.84	1.95	1.95	1.95	2.01	2.01	2.01	0.48	1.18	1.18	1.18	1.18
CFM PER RUN COOLING	78	78	78	78	78	83	83	83	83	59	59	63	63	63	64	64	64	16	38	38	38	38
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	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
ACTUAL DUCT LGH.	74	89	83	78	72	67	59	45	46	46	10	22	27	31	40	46	37	48	82	56	65	71
EQUIVALENT LENGTH	140	130	150	160	130	130	140	170	110	120	150	150	110	120	140	110	100	150	130	120	120	140
TOTAL EFFECTIVE LENGTH	214	219	233	238	202	197	199	215	156	166	160	172	137	151	180	156	137	198	212	176	185	211
ADJUSTED PRESSURE	0.08	0.08	0.07	0.07	0.09	0.08	0.08	0.08	0.1	0.1	0.11	0.1	0.13	0.11	0.1	0.11	0.13	0.09	0.08	0.09	0.09	0.08
ROUND DUCT SIZE	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	255	255	255	255	255	199	199	199	199	213	213	235	235	235	492	492	492	470	423	423	423	423
COOLING VELOCITY (ft/min)	398	398	398	398	398	423	423	423	423	433	433	463	463	463	470	470	470	470	194	194	194	194
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	B	B	B	C	D	D	D	F	F	F	E	E	E	D	C	C	B	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.26	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	83	83	83	83	83
RM GAIN MBH.	1.18	1.18	1.18	1.18	1.18
CFM PER RUN COOLING	38	38	38	38	38
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.16
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	0.09	0.08	0.13	0.09	0.08
ROUND DUCT SIZE	5	6	6	6	6
HEATING VELOCITY (ft/min)	609	423	423	423	423
COOLING VELOCITY (ft/min)	279	194	194	194	194
OUTLET GRILL SIZE	3X10	4X10	4X10	4X10	4X10
TRUNK	D	E	F	E	B

SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY	
	CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)	
TRUNK A	283	0.07	9	8	x	10	509		TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	577	0.07	11.8	14	x	10	593		TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	205	0.08	7.7	8	x	8	461		TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	1026	0.07	14.6	18	x	12	684		TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	367	0.08	9.6	10	x	8	661		TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	546	0.08	11.2	14	x	8	702		TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT		VELOCITY	
	CFM	PRESS.	DUCT	DUCT		(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	465	0.06	11.3	14	x	8	598
TRUNK X	1110	0.06	15.7	18	x	14	634
TRUNK Y	740	0.06	13.5	14	x	12	634
TRUNK Z	350	0.06	10.2	12	x	8	525
DROP	1575	0.06	17.9	24	x	14	675

RETURN AIR #

	1	2	3													BR
AIR VOLUME	350	390	465	0	0	0	0	0	0	0	0	0	0	0	0	370
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.	76	47	41	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	145
TOTAL EFFECTIVE LH	256	212	181	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	0.09	
ROUND DUCT SIZE	10.2	10.2	10.5	0	0	0	0	0	0	0	0	0	0	0	0	9.4
INLET GRILL SIZE	8	8	8	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
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	30

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

OPT ELEVATOR - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5312 LO# 96167

FURNACE 2

HEATING CFM 1110 COOLING CFM 1110
TOTAL HEAT LOSS 30,352 TOTAL HEAT GAIN 35,242
AIR FLOW RATE CFM 36.57 AIR FLOW RATE CFM 31.5

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

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 33430 BTUH**
\$LENNOX
ML196UH045XE36B
FAN SPEED 45
LOW 620
MEDLOW 685
MEDIUM 980
MEDIUM HIGH 1110
HIGH 0

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = **42,800**

DESIGN CFM = **1110**
CFM @ .6" E.S.P.

TEMPERATURE RISE 36 °F

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"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
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
RM LOSS MBH.	1.10	1.10	1.10	2.48	0.83	2.11	2.11	1.09	2.00	2.00	2.00	2.24	1.51	1.51	1.51	1.01	1.07	1.07	0.74	0.17	1.62
CFM PER RUN HEAT	40	40	40	91	30	77	77	40	73	73	73	82	55	55	55	37	39	39	27	6	59
RM GAIN MBH.	1.86	1.86	1.86	1.28	0.43	2.08	2.08	0.35	2.33	2.33	2.33	1.09	1.86	1.86	1.86	0.43	1.68	1.68	0.39	2.08	3.51
CFM PER RUN COOLING	58	58	58	40	13	66	66	11	73	73	73	34	59	59	59	14	53	53	12	65	111
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15
ACTUAL DUCT LGH.	67	72	83	75	69	85	95	102	79	85	91	86	37	30	42	32	24	28	67	82	34
EQUIVALENT LENGTH	150	160	220	180	180	160	170	180	170	180	170	160	170	150	140	200	210	180	180	190	110
TOTAL EFFECTIVE LENGTH	217	232	303	255	249	245	265	282	249	265	261	246	207	180	182	232	234	208	247	272	144
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
ROUND DUCT SIZE	6	6	6	6	4	6	6	5	6	6	6	6	5	5	5	4	5	5	4	6	6
HEATING VELOCITY (ft/min)	204	204	204	464	344	393	393	294	372	372	372	418	404	404	404	424	286	286	310	31	301
COOLING VELOCITY (ft/min)	296	296	296	204	149	337	337	81	372	372	372	173	433	433	433	161	389	389	138	331	566
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	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

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										RETURN AIR TRUNK SIZE									
TRUNK	STATIC	ROUND	RECT	VELOCITY						TRUNK	STATIC	ROUND	RECT	VELOCITY					
CFM	PRESS.	DUCT	DUCT						(ft/min)	CFM	PRESS.	DUCT	DUCT						(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	550	0.06	12	12	x	10	660			TRUNK H	0	0.00	0	0	x	8	0		
TRUNK C	884	0.06	14.4	16	x	12	663			TRUNK I	0	0.00	0	0	x	8	0		
TRUNK D	224	0.08	8	10	x	8	403			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 #	1	2	3	4	5	6	BR													
AIR VOLUME	230	115	260	130	115	260	0	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	0.15	0.15
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	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	0	0	0
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	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	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	9.1	7	9.1	7	7	9.1	0	0	0	0	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	0	0	0	0
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	30	14	30	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 6001 - QUEENSLAND
SITE NAME: PINE VALLEY PH 2

LO # 96167
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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Kitchen & Bathrooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</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>95.4</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>150</u>	cfm
Required Supplemental Capacity	<u>62.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>150.0</u> 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
<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

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.
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 96167	Model: 6001 - QUEENSLAND	Builder: GOLD PARK HOMES	Date: 4/14/2022																																																									
Volume Calculation		Air Change & Delta T Data																																																										
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>2574</td><td>10</td><td>24710.4</td></tr> <tr><td>First</td><td>2574</td><td>11</td><td>27284.4</td></tr> <tr><td>Second</td><td>3208</td><td>9</td><td>28872</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="3" style="text-align: right;">Total:</td><td>80,866.8 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2289.9 m³</td></tr> </tbody> </table>		Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2574	10	24710.4	First	2574	11	27284.4	Second	3208	9	28872	Third	0	9	0	Fourth	0	9	0	Total:			80,866.8 ft³	Total:			2289.9 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.486</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.162</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> <td>76</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> <td>13</td> </tr> </table>			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
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	2574	10	24710.4																																																									
First	2574	11	27284.4																																																									
Second	3208	9	28872																																																									
Third	0	9	0																																																									
Fourth	0	9	0																																																									
Total:			80,866.8 ft³																																																									
Total:			2289.9 m³																																																									
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		6.2.6 Sensible Gain due to Air Leakage																																																										
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.486 x 636.08 x 42 °C x 1.2 = 15651 W = 53402 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.162 x 636.08 x 7 °C x 1.2 = 878 W = 2995 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																										
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ 300 CFM x 76 °F x 1.08 x 0.25 = 6156 Btu/h		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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	53,402	10,516	2.539																																																								
2	0.3		26,314	0.609																																																								
3	0.2		18,440	0.579																																																								
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																																																												
				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND	OPT ELEVATOR - WOB	BUILDER: GOLD PARK HOMES
SFQT: 5312	LO# 96167	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):	80866.8	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	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	-

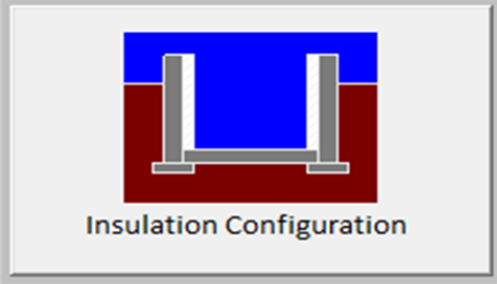
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

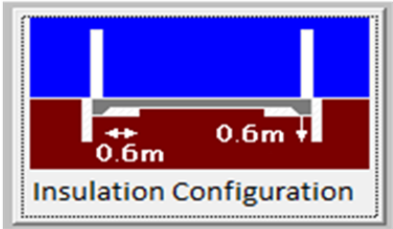
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.9	 Insulation Configuration
Floor Width (m):	16.8	
Exposed 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
LO# 96167

OPT ELEVATOR - WOB

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
LO# 96167

OPT ELEVATOR - WOB

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):	2289.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	3052.5 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):	0.486			
Cooling Air Leakage Rate (ACH/H):	0.162			

TYPE: 6001 - QUEENSLAND
LO# 96167

OPT ELEVATOR - WOB

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.® AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND 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.

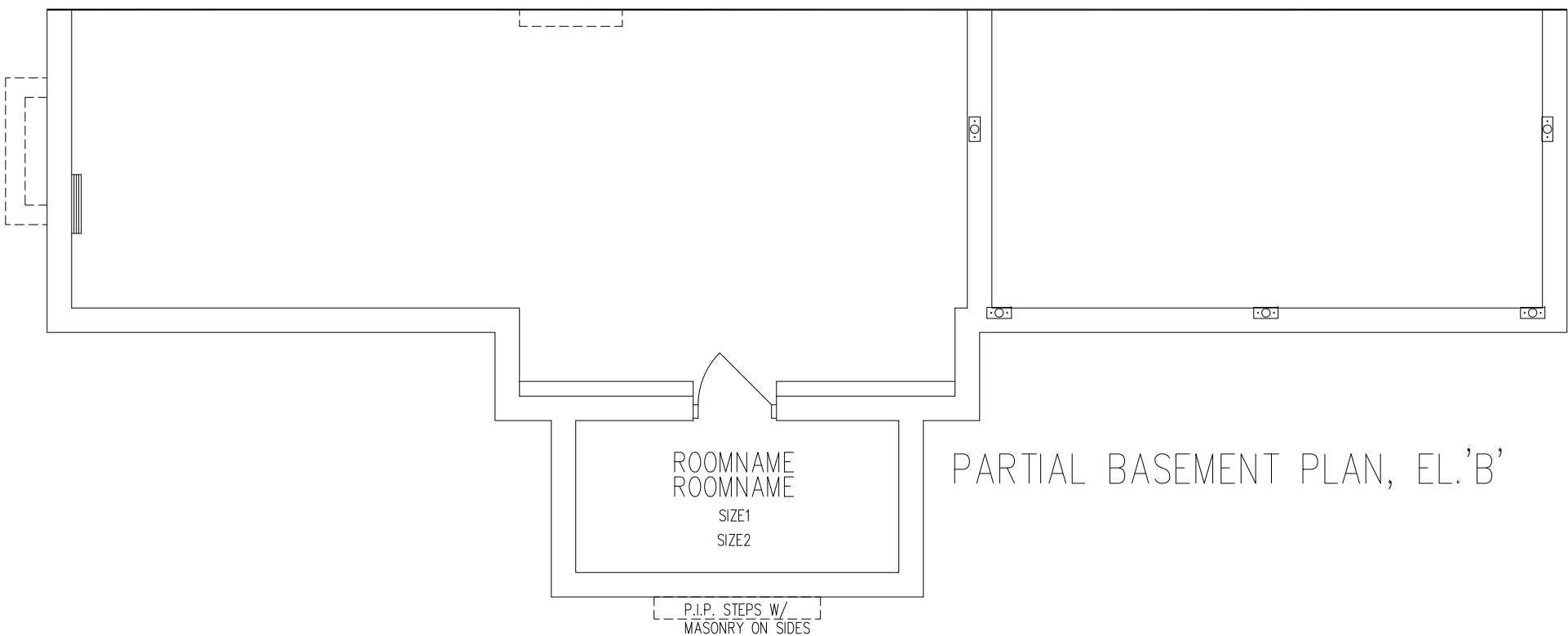
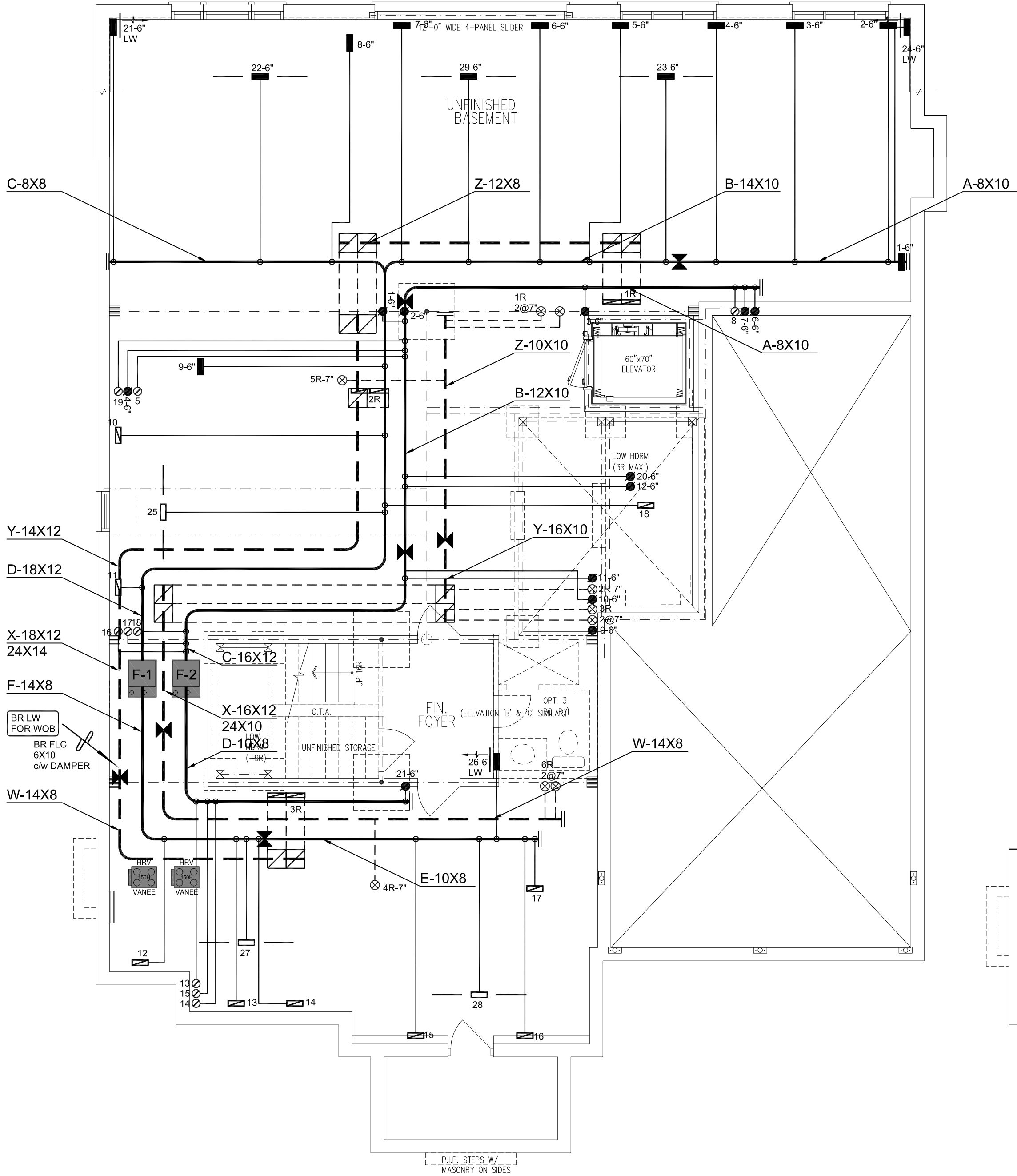
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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
4.0 TONS A/C @ 1575 cfm

FURNACE 2 (F-2)
LENNOX ML196UH045XE36B
42800 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

	S/A	R/A	FANS
2ND	21	6	7
1ST	18	3	2
BAS	9	1	0



HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE F'D BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
	LW LOW WALL
	HW HIGH WALL

UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE LATEST ONTARIO BUILDING CODE. (ELEVATION 1' & 10' SBL/MB) OPT. 3

1. ISSUED FOR PERMIT APRIL 2022 EG

No. Revision Date By

SB-12 PACKAGE A1

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

Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND
OPT ELEVATOR - WOB
5312 SQFT

Sheet Title: BASEMENT HVAC LAYOUT
Drawn By: EG
Scale: 3/16"=1'-0"
Date: APRIL 2022
LO #: 96167
Checked By: MO
Sheet No.: 1

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	21	6	7
1ST	18	3	2
BAS	9	1	0

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X9 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X9 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

I MICHAEL O'BROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM A QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Brourke, BCTN# 19609
HVAC DESIGNER LTD.



1	ISSUED FOR PERMIT	APRIL 2022
No.	Revision	Date

SB-12 PACKAGE

A1



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
OPT ELEVATOR - WOB

5312 SQFT
Copyright & Copy: © 2022 HVAC Designs Ltd.

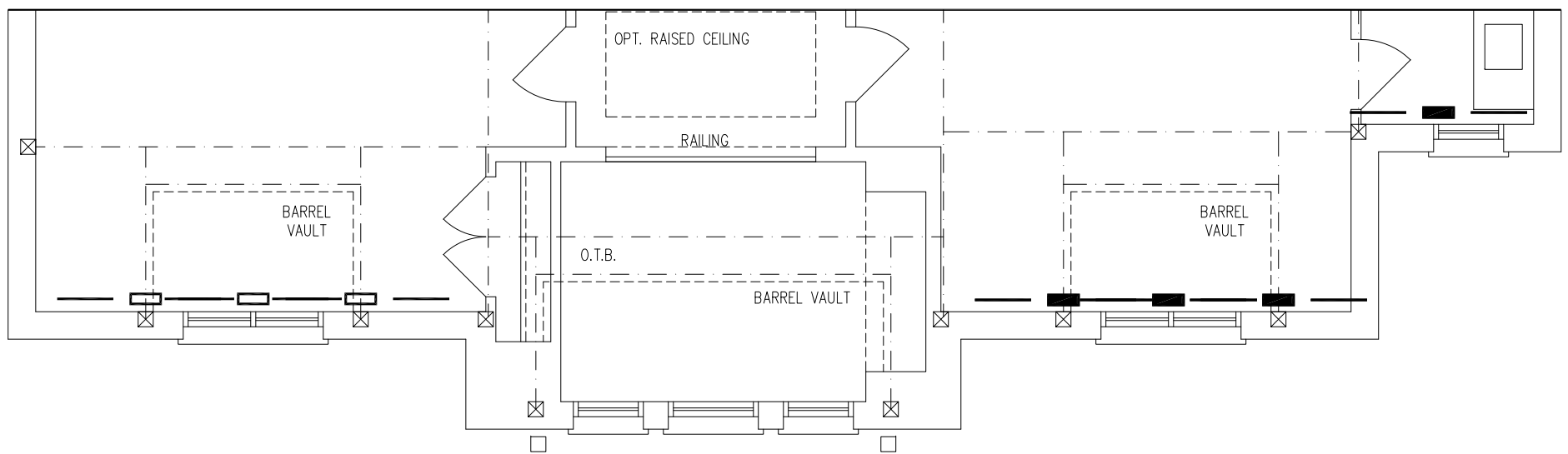
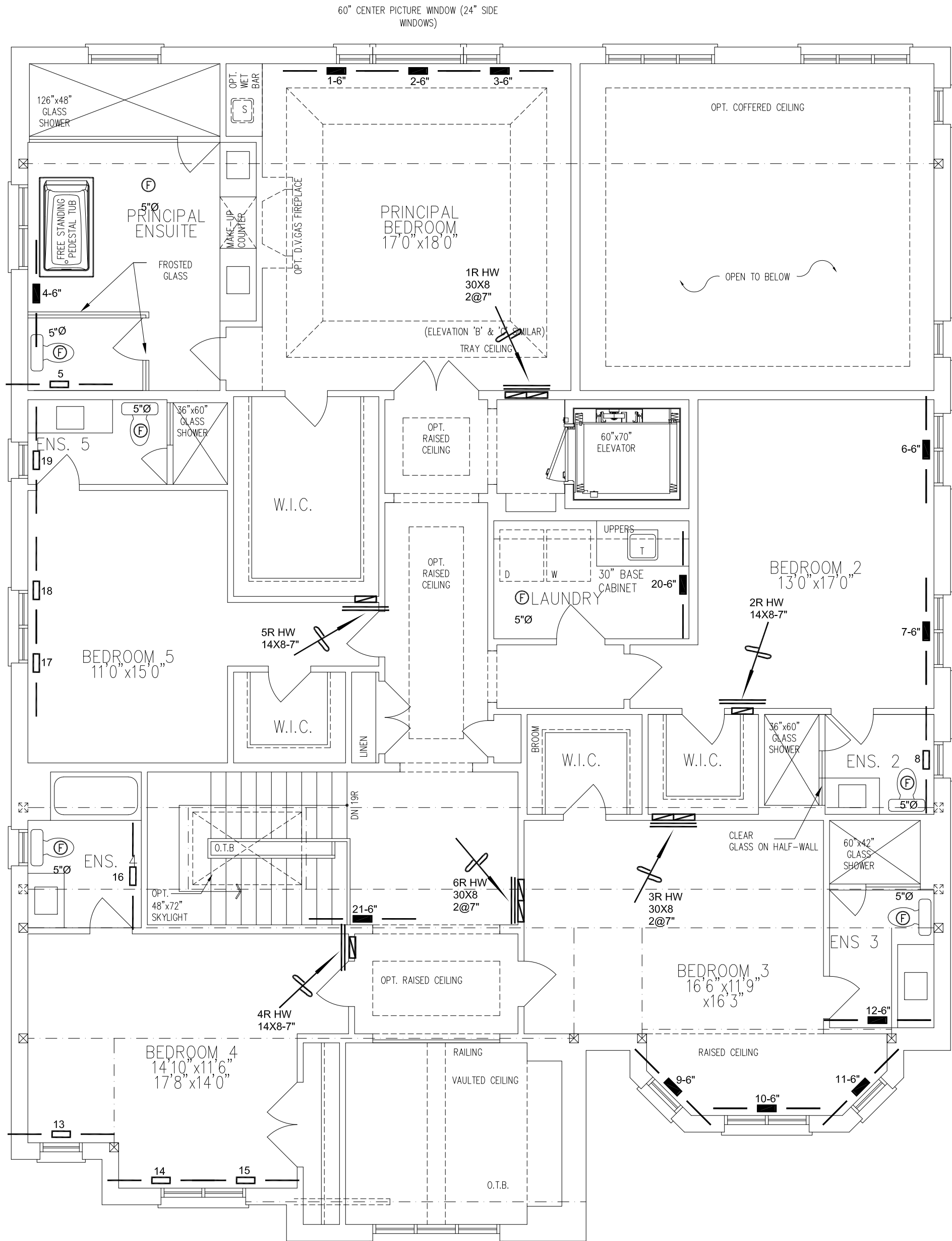
Sheet Title		FIRST FLOOR HVAC LAYOUT	
Drawn By		EG	Checked By MO
Scale			Sheet No.
3/16"=1'-0"			2
Date			
APRIL 2022			
LO #			
96167			

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.® AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND 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.

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	21	6	7
1ST	18	3	2
BAS	9	1	0



PARTIAL SECOND FLOOR PLAN, EL.B'

PARTIAL SECOND FLOOR PLAN W/ ELEVATOR, EL.'A'

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X9 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
	LW LOW WALL
	HW HIGH WALL

UNLESS OTHERWISE NOTED, I SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND AM NOT PROVIDING ANY WARRANTY, GUARANTEE OR LIABILITY FOR THE DESIGN WORK.

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

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@hvacadesigns.ca
Web: www.hvacadesigns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND
OPT ELEVATOR - WOB
5312 SQFT

Sheet Title: SECOND FLOOR HVAC LAYOUT	Checked By: MO	Sheet No. 3
Drawn By: EG	Scale: 3/16"=1'-0"	
Date: APRIL 2022	LO # 96167	