

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: 5009 LOT 49 Project: PINE VALLEY & TESTON	
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.			
July 11, 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 & TESTON				LOT 49		DATE: Jul-22		WINTER NATURAL AIR CHANGE RATE 0.407		HEAT LOSS ΔT °F. 76		CSA-F280-12	
BUILDER: GOLD PARK HOMES				TYPE: 5009		GFA: 3554		LO# 98034		SUMMER NATURAL AIR CHANGE RATE 0.137		HEAT GAIN ΔT °F. 13	
ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	BED-2	BED-3	BED-4	ENS-2	ENS-3	ENS-4		
				47	30	33	32	14	11	6	8		
				9	9	9	9	9	9	9	9		
GRS.WALL AREA	LOSS	GAIN		423	270	297	288	126	99	54	72		
GLAZING	LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN		
NORTH	21.3	16.0	0	0	0	0	0	0	9	192	144	0	0
EAST	21.3	41.6	0	0	0	32	681	1330	41	872	1704	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	19	404	473	7	149
WEST	21.3	41.6	56	1192	2327	28	596	1163	0	0	0	7	149
SKYLT.	37.2	57.1	4	149	228	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	367	1638	276	235	1049	177	265	1183	199	47	210
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	548	703	322	224	287	132	293	376	172	60	77
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	46	126	58	0	0
EXPOSED FLOOR	2.6	0.4	68	173	29	0	0	0	343	875	147	0	0
BASEMENT/CRAWL HEAT LOSS			0	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	0
SUBTOTAL HT LOSS			3855		2081	3390		2537	1457	881		436	
SUB TOTAL HT GAIN				3182	1646		2135	2307		977	288		245
LEVEL FACTOR / MULTIPLIER	0.20	0.37				0.20	0.37		0.20	0.37		0.20	0.37
AIR CHANGE HEAT LOSS			1425		769	1253		938	538		325	161	
AIR CHANGE HEAT GAIN				232	120		156	169		71	21		18
DUCT LOSS			528		0	464		0		121		0	
DUCT GAIN				463	0	326		0		31		0	
HEAT GAIN PEOPLE	240	2		480	0	1	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				733	0		733	733		0		0	0
TOTAL HT LOSS BTU/H			5808		2850	5107		3475	1995	1327		597	700
TOTAL HT GAIN x 1.3 BTU/H			6618		2296	4667		4483	2628	441		342	357

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	GRT/BF	KIT	LIV/DIN	LAUND	W/R	FOY	MUD	BAS
				78	21	41	0	19	43	7	200
				11	11	11	9	11	11	11	10
GRS.WALL AREA	LOSS	GAIN		858	231	451	0	209	473	77	1400
GLAZING	LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	21.3	16.0	0	0	0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	41	872	1704	0	0	0
SOUTH	21.3	24.9	0	0	0	10	213	249	0	0	0
WEST	21.3	41.6	197	4192	8186	34	724	847	0	0	0
SKYLT.	37.2	57.1	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	661	2950	497	221	986	166	376	1678	283
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	148	190	87
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	37	94	16
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			7142		1199	3274		284	933		3423
SUB TOTAL HT GAIN				8683	415	2833	103	157		1543	128
LEVEL FACTOR / MULTIPLIER	0.30	0.51				0.30	0.51		0.30	0.51	
AIR CHANGE HEAT LOSS			3652		613	1674		105	477		1750
AIR CHANGE HEAT GAIN				634	30	207	8	11		113	9
DUCT LOSS			0		0	0	39	0		0	0
DUCT GAIN				0	0	0	84	0		0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				733	733	733	733		0		0
TOTAL HT LOSS BTU/H			10794		1812	4948	428	1410	5173	1148	24143
TOTAL HT GAIN x 1.3 BTU/H			13065		1532	4905	1206	219	2153	178	2239

TOTAL HEAT GAIN BTU/H: 47604 TONS: 3.97 LOSS DUE TO VENTILATION LOAD BTU/H: 1631 STRUCTURAL HEAT LOSS: 71713 TOTAL COMBINED HEAT LOSS BTU/H: 73345

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMES

LOT 49
TYPE: 5009

DATE: Jul-22

GFA: 3554 LO# 98034

HEATING CFM 1575 COOLING CFM 1575
TOTAL HEAT LOSS 71,713 TOTAL HEAT GAIN 47,329
AIR FLOW RATE CFM 21.96 AIR FLOW RATE CFM 33.28

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

LENNOX
EL196UH090XE48C

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = **85,600**

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	13	6
R/A	0	0	5	2	1

plenium 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

FAN SPEED 90
LOW 0
MEDLOW 1080
MEDIUM 1190
MEDIUM HIGH 1340
HIGH 1575

DESIGN CFM = **1575**
CFM @ .6" E.S.P.

TEMPERATURE RISE 50 °F

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

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

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	ENS	BED-2	BED-3	BED-4	ENS-2	BED-2	ENS-3	MBR	ENS-4	GRT/BF	GRT/BF	KIT	GRT/BF	LIV/DIN	LAUND	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.94	1.43	1.43	2.55	1.74	2.00	1.33	2.55	0.60	1.94	0.70	2.16	2.16	1.81	2.16	1.65	0.43	1.41	2.59	1.15	4.02	4.02	4.02	4.02
CFM PER RUN HEAT	43	31	31	56	38	44	29	56	13	43	15	47	47	40	47	36	9	31	57	25	88	88	88	88
RM GAIN MBH.	2.21	1.15	1.15	2.33	2.24	2.63	0.44	2.33	0.34	2.21	0.36	2.61	2.61	1.53	2.61	1.63	1.21	0.22	1.08	0.18	0.37	0.37	0.37	0.37
CFM PER RUN COOLING	73	38	38	78	75	87	15	78	11	73	12	87	87	51	87	54	40	7	36	6	12	12	12	12
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	71	54	34	29	35	23	57	54	15	87	22	55	43	20	49	17	50	60	37	55	50	43	33	37
EQUIVALENT LENGTH	160	160	160	190	120	180	190	150	180	150	200	130	160	190	130	90	180	110	150	150	130	140	170	150
TOTAL EFFECTIVE LENGTH	231	214	194	219	155	203	247	204	195	237	222	185	203	210	179	107	230	170	187	205	180	183	203	187
ADJUSTED PRESSURE	0.07	0.08	0.09	0.08	0.11	0.08	0.07	0.08	0.09	0.07	0.08	0.09	0.08	0.08	0.09	0.16	0.07	0.1	0.09	0.08	0.09	0.09	0.08	0.09
ROUND DUCT SIZE	6	4	4	6	5	6	4	6	4	6	4	6	6	5	6	5	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	219	356	356	286	279	224	333	286	149	219	172	240	240	294	240	264	66	356	419	287	449	449	449	449
COOLING VELOCITY (ft/min)	372	436	436	398	551	444	172	398	126	372	138	444	444	374	444	396	294	80	264	69	61	61	61	61
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	C	C	E	D	C	E	E	E	A	C	C	B	C	B	E	E	B	D	A	A	B	B	B

RUN #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BAS	MBR	BED-3	GRT/BF	GRT/BF	LIV/DIN	LIV/DIN	FOY
RM LOSS MBH.	4.02	4.02	1.94	1.74	2.16	2.16	1.65	1.65	2.59
CFM PER RUN HEAT	88	88	43	38	47	47	36	36	57
RM GAIN MBH.	0.37	0.37	2.21	2.24	2.61	2.61	1.63	1.63	1.08
CFM PER RUN COOLING	12	12	73	75	87	87	54	54	36
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.17	0.17
ACTUAL DUCT LGH.	52	25	62	44	58	63	25	31	31
EQUIVALENT LENGTH	140	100	150	160	160	140	110	120	150
TOTAL EFFECTIVE LENGTH	192	125	212	204	218	203	135	151	181
ADJUSTED PRESSURE	0.08	0.13	0.08	0.08	0.07	0.08	0.13	0.11	0.1
ROUND DUCT SIZE	6	6	6	6	6	6	5	5	5
HEATING VELOCITY (ft/min)	449	449	219	194	240	240	264	264	419
COOLING VELOCITY (ft/min)	61	61	372	382	444	444	396	396	264
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10
TRUNK	B	E	C	D	A	A	D	D	D

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	293	0.07	9.2	10	x	8	527	TRUNK G	0	0.00	0	0	8
TRUNK B	770	0.07	13.1	20	x	8	693	TRUNK H	0	0.00	0	0	8
TRUNK C	1021	0.07	14.6	24	x	8	766	TRUNK I	0	0.00	0	0	8
TRUNK D	262	0.08	8.5	8	x	8	590	TRUNK J	0	0.00	0	0	8
TRUNK E	549	0.07	11.6	16	x	8	618	TRUNK K	0	0.00	0	0	8
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT		VELOCITY
	CFM	PRESS.	DUCT	DUCT		(ft/min)
TRUNK O	0	0.05	0	0	x	8
TRUNK P	0	0.05	0	0	x	8
TRUNK Q	0	0.05	0	0	x	8
TRUNK R	0	0.05	0	0	x	8
TRUNK S	0	0.05	0	0	x	8
TRUNK T	0	0.05	0	0	x	8
TRUNK U	0	0.05	0	0	x	8
TRUNK V	0	0.05	0	0	x	8
TRUNK W	0	0.05	0	0	x	8
TRUNK X	1150	0.05	16.6	32	x	8
TRUNK Y	425	0.05	11.5	16	x	8
TRUNK Z	455	0.05	11.7	16	x	8
DROP	1575	0.05	18.7	24	x	14

RETURN AIR #	1	2	3	4	5	6	7								BR
AIR VOLUME	75	85	190	75	85	380	425	0	0	0	0	0	0	0	260
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
ACTUAL DUCT LGH.	90	59	42	53	37	60	26	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	225	175	165	245	195	200	120	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	315	234	207	298	232	260	146	1	1	1	1	1	1	1	161
ADJUSTED PRESSURE	0.05	0.06	0.07	0.05	0.06	0.06	0.10	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	6	6	7.8	6	6	10.5	9.6	0	0	0	0	0	0	0	8.2
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	24	14	14	30	30	0	0	0	0	0	0	0	24

TYPE: 5009
SITE NAME: PINE VALLEY & TESTON

LO # 98034
LOT 49

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</u> cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>111.3</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>79.5</u> cfm	<u>3.0</u> sones ☒ HVI Approved

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

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
ENS-4	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % 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:	July-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* MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98034	Model: 5009	Builder: GOLD PARK HOMES	Date: 2022-07-11																																																									
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																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.407 x 405.38 x 42 °C x 1.2 = 8357 W = 28514 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.137 x 405.38 x 7 °C x 1.2 = 472 W = 1611 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 76 °F x 1.08 x 0.25 = 1631 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 13 °F x 1.08 x 0.25 = 275 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	28,514	9,886	1.442																																																								
2	0.3		16,730	0.511																																																								
3	0.2		15,431	0.370																																																								
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																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5009	LOT 49	BUILDER: GOLD PARK HOMES
SFQT: 3554	LO# 98034	SITE: PINE VALLEY & TESTON

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

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):	51537.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	200.0 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	-

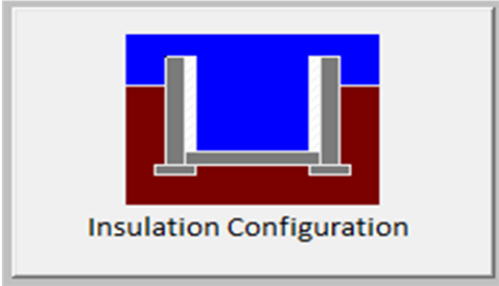
INDIVIDUAL BCIN: 19669

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):	17.7	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.4	
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):		2023

TYPE: 5009
LO# 98034

LOT 49

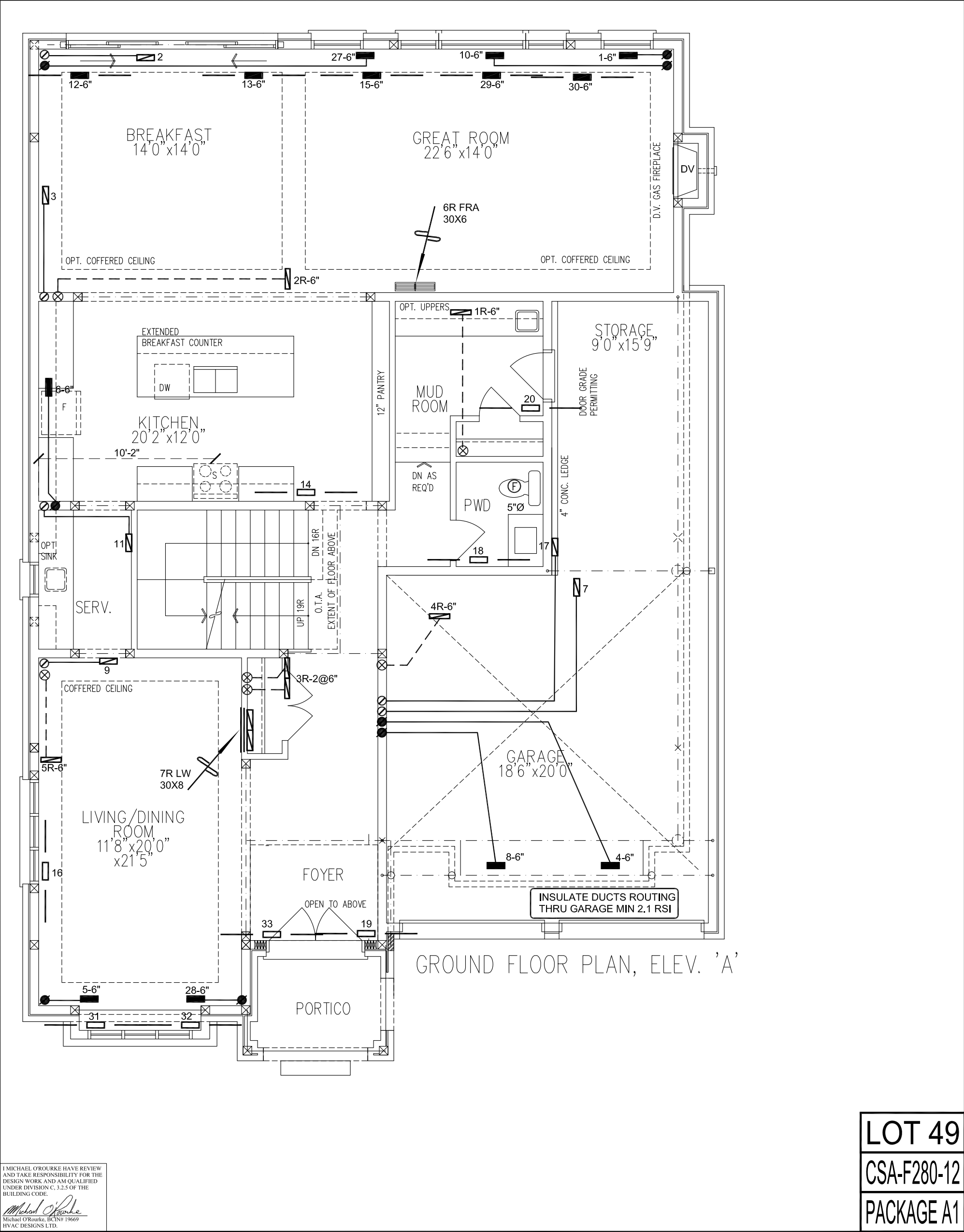
Air Infiltration Residential Load Calculator

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):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1459.4			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1945.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 5009
LO# 98034

LOT 49



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.

LOT 49

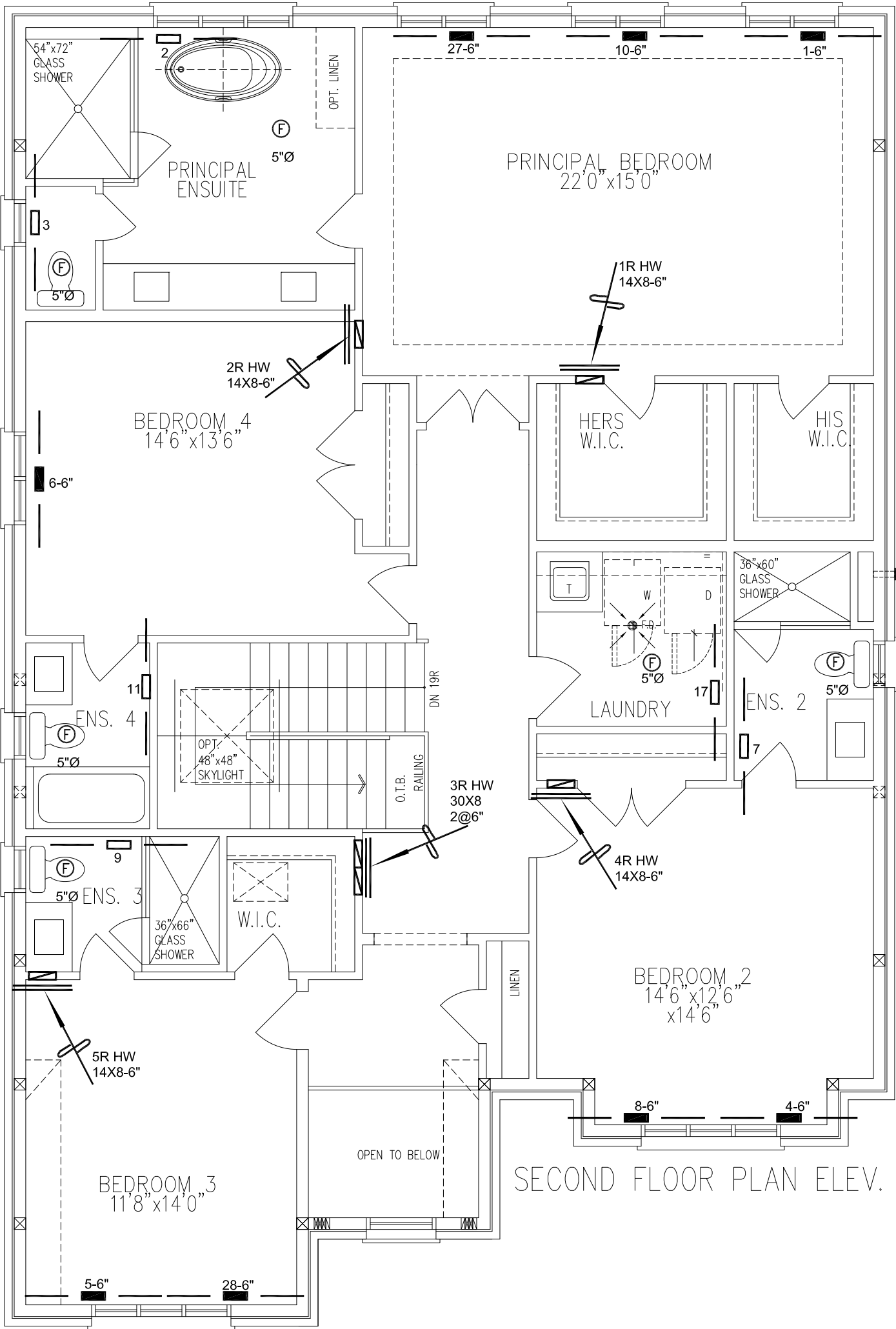
CSA-F280-12

PACKAGE A1

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

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Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name		Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Date	JULY/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
5009 - LOT 49 3554 sqft			LO#	98034



SECOND FLOOR PLAN ELEV. 'A'

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LOT 49

CSA-F280-12

PACKAGE A1

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