


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]				
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems </div> </div>				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5005 ELEV. 'B' - KNIGHTSWOOD OPT. ELEVATOR Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):		
<input type="checkbox"/> 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: _____				
<input checked="" type="checkbox"/> 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>				
<input type="checkbox"/> 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.				
September 10, 2018		 Signature of Designer		
Date				

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY & TESTON BUILDERS: GOLD PARK HOMES TYPE: 6005 ELEV. 'B' - KNIGHTSWOOD OFA: 4412 DATE: Sep-18 OPT. ELEVATOR LO# 77634 WINTER NATURAL AIR CHANGE RATE 0.360 CSA-P280-12
HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 15 SB-12 PACKAGE A1
SUMMER NATURAL AIR CHANGE RATE 0.124

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	ENS-4	WIC-3
GRS.WALL AREA	508		508	360	130	374	386	190	80	30	40	70	140
GLAZING													
NORTH	21.3	16.5	0	0	6	128	98	0	0	0	0	0	0
EAST	21.3	42.1	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	25.5	0	0	0	65	1333	2737	0	0	0	0	0
WEST	21.3	42.1	50	1064	2108	0	0	0	0	0	0	0	0
SKYL.T.	37.2	102.6	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.9	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	466	2036	396	326	1485	283	124	553	108	309	1379
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	533	684	331	323	415	201	207	268	129	175	225
NO A/TTC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	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			3783	2593	1339	3846	3191	1752	722	287	297	882	1029
SUB TOTAL HT GAIN			2833	1916	412	3344	2840	1129	262	71	92	323	979
LEVEL FACTOR / MULTIPLIER	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20
AIR CHANGE HEAT LOSS	1216	431	1237	834	431	1237	1026	563	232	92	95	187	331
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	245	0	177	608	422	0	95	38	0	0	0
DUCT GAIN	0	0	0	0	113	456	401	28	0	8	0	0	0
HEAT GAIN PEOPLE	240	480	0	0	0	1	240	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS	684	684	684	684	684	684	684	684	0	0	0	0	0
TOTAL HT LOSS BTU/H	4899	5515	3427	2706	1947	5592	4639	2315	1049	418	392	769	1360
TOTAL HT GAIN x 1.3 BTU/H						5517	5733	2796	407	110	130	486	1383

ROOM USE	EXP. WALL	CLG. HT.	LIB	DIN	KIT/IGT	CAB	LAUN	PWD	FOY	MUD	LOD	BAS
GRS.WALL AREA	341		341	352	957	495	0	55	385	216	620	1978
GLAZING												
NORTH	21.3	16.5	0	0	46	978	761	0	0	0	0	0
EAST	21.3	42.1	56	1192	2338	0	0	0	0	0	0	0
SOUTH	21.3	25.5	0	34	724	868	0	0	0	0	0	0
WEST	21.3	42.1	0	0	0	63	1341	1604	0	0	0	0
SKYL.T.	37.2	102.6	0	0	0	63	1341	2653	0	0	0	0
DOORS	25.2	4.9	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	285	1272	248	318	1419	276	776	3463	674	20
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0
NO A/TTC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	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	2464	2806	2143	1142	6787	4886	325	507	2595	1380	1612	10580
SUB TOTAL HT GAIN												
LEVEL FACTOR / MULTIPLIER	0.30	0.44	0.30	0.44	0.30	0.44	0.20	0.30	0.30	0.44	0.30	0.80
AIR CHANGE HEAT LOSS	1082	1082	941	941	3212	2146	105	223	1315	606	1130	15873
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	480	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS	684	684	684	684	684	684	684	684	0	0	0	0
TOTAL HT LOSS BTU/H	3545	4570	3084	2502	10527	7032	473	729	4310	1886	1612	26453
TOTAL HT GAIN x 1.3 BTU/H						7736	1159	342	870	1259	1459	1909

TOTAL HEAT GAIN BTU/H: 60289 TONS: 5.02 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 8656 TOTAL COMBINED HEAT LOSS BTU/H: 89786

Michael O'Rourke

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

OPT. ELEVATOR

TYPE: 5005 ELEV. B - KNIGHTSWOOD DATE: Sep-18

CFA: 4412 LO# 77534

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 86,556 TOTAL HEAT GAIN 59,670
AIR FLOW RATE CFM 22.59 AIR FLOW RATE CFM 32.76

AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000
DESIGN CFM = 1955
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	18	13	7
R/A	0	0	5	3	1

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

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

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
BAS	250	274	195	186	232	232	105	042	039	250	077	177	308	263	263	047	073	431	199	399	399	399	BAS	24
RM LOSS MBH	56	62	44	42	52	52	24	9	9	56	17	40	70	59	59	59	11	16	97	45	90	90	BAS	399
CFM PER RUN HEAT	276	230	162	217	287	280	041	011	013	276	046	228	250	262	262	262	116	034	087	127	048	048	048	90
RM GAIN MBH	90	75	53	71	94	92	13	4	4	90	15	75	82	86	86	86	38	11	28	42	16	16	16	
CFM PER RUN COOLING	015	016	016	016	015	015	016	016	016	015	016	016	015	015	015	015	016	016	015	016	015	015	015	
ADJUSTED PRESSURE	70	70	71	49	70	48	74	48	53	64	59	57	29	52	69	54	36	73	40	47	67	60	54	
ACTUAL DUCT LGH	200	200	170	160	160	160	200	150	170	170	150	140	103	120	140	110	200	170	210	160	150	120	103	
EQUIVALENT LENGTH	270	270	241	209	230	208	274	198	223	234	209	197	132	172	209	164	236	243	250	207	217	180	157	
TOTAL EFFECTIVE LENGTH	005	006	006	007	006	007	006	008	007	006	007	008	011	009	007	009	007	006	006	008	007	008	009	
ADJUSTED PRESSURE	6	6	5	5	6	6	4	4	4	6	4	5	5	5	6	5	4	4	6	4	6	6	6	
ROUND DUCT SIZE	286	316	323	308	265	265	275	103	103	286	195	294	514	433	301	433	126	184	495	516	459	459	661	
HEATING VELOCITY (ft/min)	459	382	389	521	479	469	149	46	46	459	172	551	602	631	438	631	436	126	143	482	82	82	117	
COOLING VELOCITY (ft/min)	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	
OUTLET GRILL SIZE	D	C	C	G	F	E	C	G	G	D	E	F	E	D	B	C	E	A	F	C	A	B	D	
TRUNK	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	

TEMPERATURE RISE 50 °F

ROOM NAME	25	26	27	28	29	30	31	32	33	34	35	36	37	38
BAS	399	399	186	186	232	232	136	263	234	234	234	234	234	234
RM LOSS MBH	1.86	1.86	1.86	1.86	2.32	2.32	1.36	2.63	2.34	2.34	2.34	2.34	2.34	2.34
CFM PER RUN HEAT	90	90	42	42	52	52	31	40	59	53	53	53	53	53
RM GAIN MBH	0.48	0.48	2.17	2.17	2.87	2.87	1.38	2.28	2.62	2.58	2.58	2.20	0.20	0.48
CFM PER RUN COOLING	16	16	71	71	94	94	45	75	86	84	84	7	7	16
ADJUSTED PRESSURE	0.15	0.15	0.16	0.16	0.15	0.15	0.16	0.16	0.15	0.15	0.15	0.16	0.16	0.15
ACTUAL DUCT LGH	34	50	52	55	75	75	58	51	55	69	71	56	58	23
EQUIVALENT LENGTH	110	150	170	160	160	160	190	160	120	150	130	140	190	140
TOTAL EFFECTIVE LENGTH	144	200	222	215	235	248	211	175	219	200	222	256	248	163
ADJUSTED PRESSURE	0.1	0.07	0.07	0.07	0.06	0.06	0.06	0.08	0.08	0.07	0.07	0.06	0.06	0.09
ROUND DUCT SIZE	5	6	5	5	6	6	5	6	6	6	6	4	4	6
HEATING VELOCITY (ft/min)	661	459	308	308	265	265	228	294	301	270	270	92	92	459
COOLING VELOCITY (ft/min)	117	82	521	521	479	479	330	551	438	428	428	80	80	82
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10
TRUNK	G	F	G	G	F	F	F	F	B	A	A	C	C	E

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	TRUNK PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.06	9.2	10	8	636	0.06	12.7	18	8	636	0.05	0	0	8
TRUNK B	0.07	8.1	8	8	1955	0.05	20.3	38	10	741	0.05	0	0	8
TRUNK C	0.06	13.3	20	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK D	0.05	9.5	10	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK E	0.05	17.5	28	10	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK F	0.06	10.7	14	8	0	0.00	0	0	8	0	0.05	0	0	8

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	135	130	115	240	200	370	340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	
ACTUAL DUCT LGH	84	51	62	59	47	49	30	51	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
EQUIVALENT LENGTH	200	135	155	185	135	140	170	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL EFFECTIVE LH	284	186	217	244	182	189	200	246	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
ADJUSTED PRESSURE	0.05	0.07	0.06	0.05	0.07	0.07	0.07	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
ROUND DUCT SIZE	7	6.8	7	7	8.5	7.9	10	10.5	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
INLET GRILL SIZE	14	14	14	14	30	14	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TRUNK	14	14	14	14	30	14	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TRUNK 1																								
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TYPE: 5005 ELEV. 'B' - KNIGHTSWOOD
SITE NAME: PINE VALLEY & TESTON

LO # 77534
OPT. ELEVATOR

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) <input checked="" type="checkbox"/>	Direct vent (sealed combustion) only	
b) <input type="checkbox"/>	Positive venting induced draft (except fireplaces)	
c) <input type="checkbox"/>	Natural draft, B-vent or induced draft gas fireplace	
d) <input type="checkbox"/>	Solid Fuel (including fireplaces)	
e) <input type="checkbox"/>	No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/>	Forced Air
<input type="checkbox"/>	Non Forced Air
<input type="checkbox"/>	Electric Space Heat

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/>	I Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/>	II Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/>	III Any Type c) appliance	
<input type="checkbox"/>	IV Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/>	1 Exhaust only/Forced Air System	
<input type="checkbox"/>	2 HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/>	3 HRV Simplified/connected to forced air system	
<input type="checkbox"/>	4 HRV with Ducting/non forced air system	
<input type="checkbox"/>	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	7 @ 10.6 cfm	74.2 cfm
Other Rooms	8 @ 10.6 cfm	84.8 cfm
Table 9.32.3.A.	TOTAL	233.2 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	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	233.2	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	78.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

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

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> 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:	September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																									
LO#: 77534		Model: 5005 ELEV. 'B' - KNIGHTSWOOD		Builder: GOLD PARK HOMES		Date: 9/10/2018																																																																			
Volume Calculation				Air Change & Delta T Data																																																																					
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairv = 0</p>																																																																									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5005 ELEV. 'B' - KNIGHTSWOOD	OPT. ELEVATOR	BUILDER: GOLD PARK HOMES
SFQT: 4412	LO# 77534	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)	73

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):	66692.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 77.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	238.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****Nominal Min. Eff.**

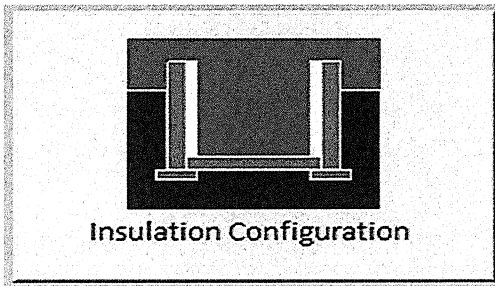
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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):	23.5	 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):	3.2	
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):		2453

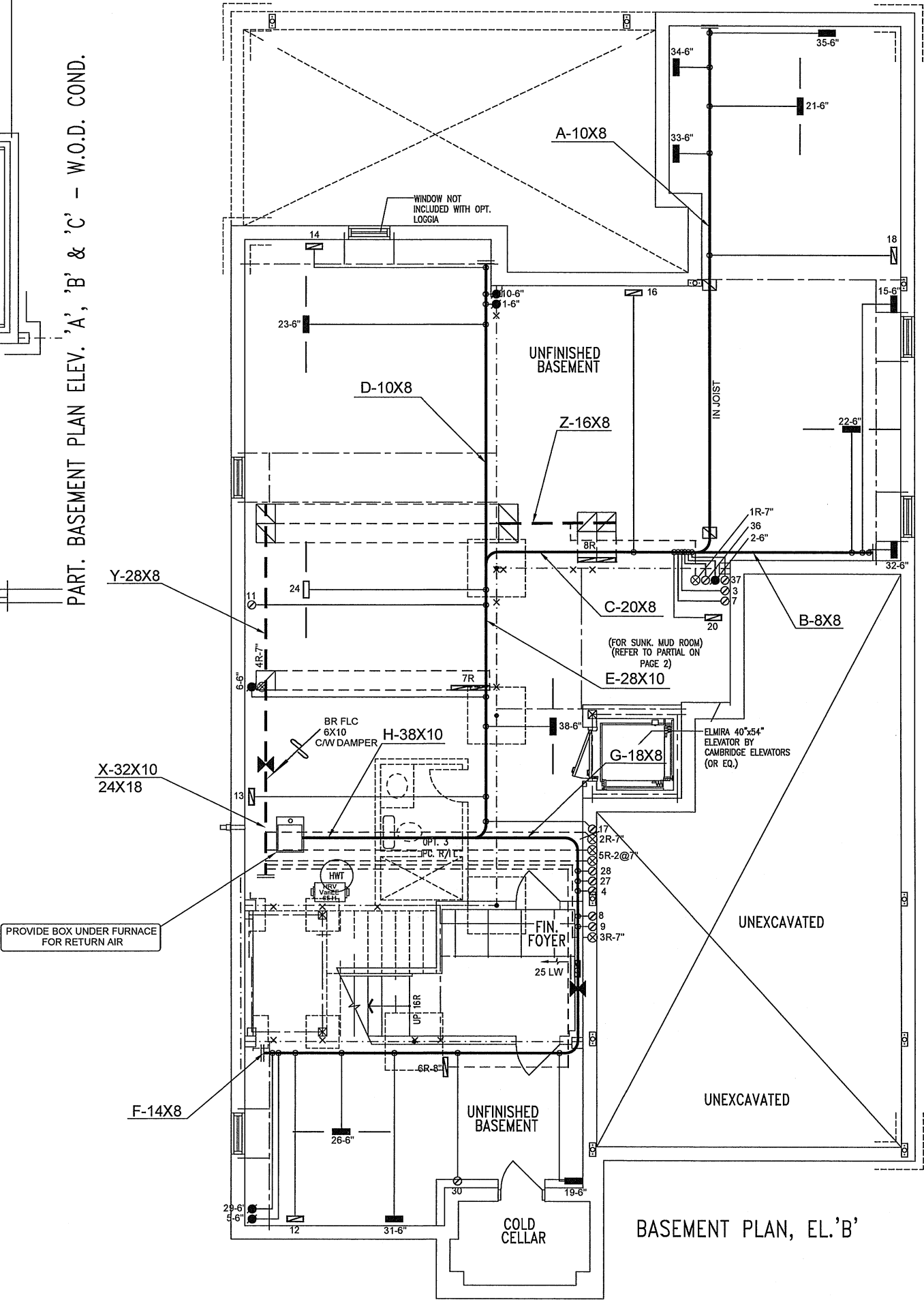
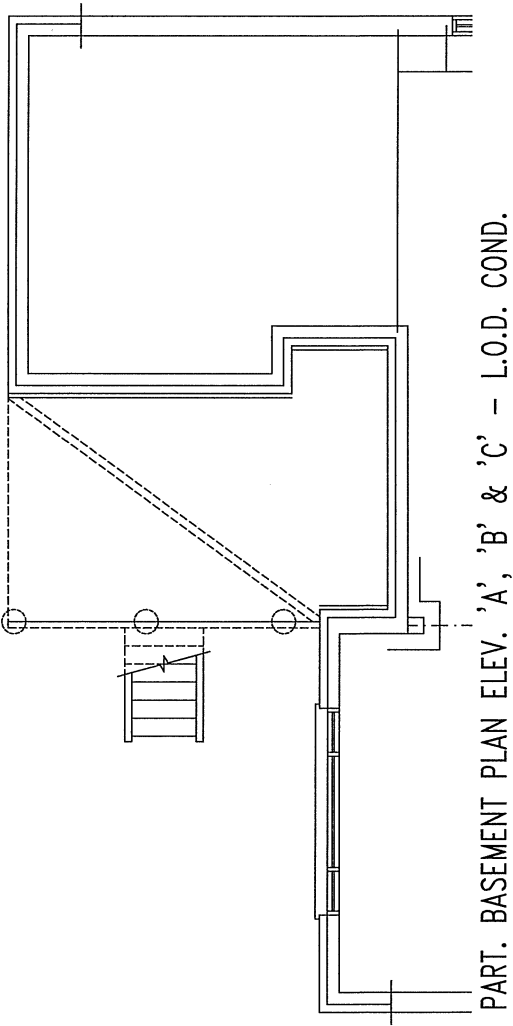
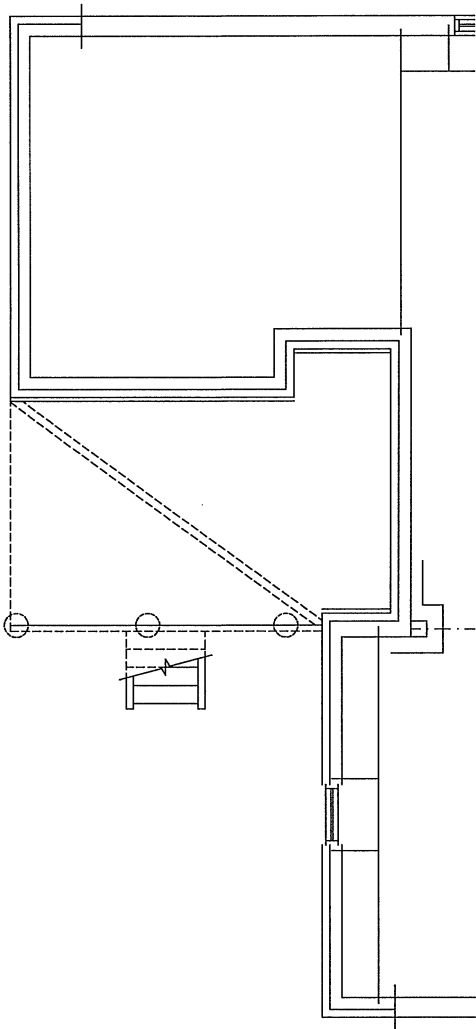
TYPE: 5005 ELEV. 'B' - KNIGHTSWOOD OPT. ELEVATOR
LO# 77534

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.32			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1888.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2517.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.350			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 5005 ELEV. 'B' - KNIGHTSWOOD OPT. ELEVATOR
LO# 77534



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.

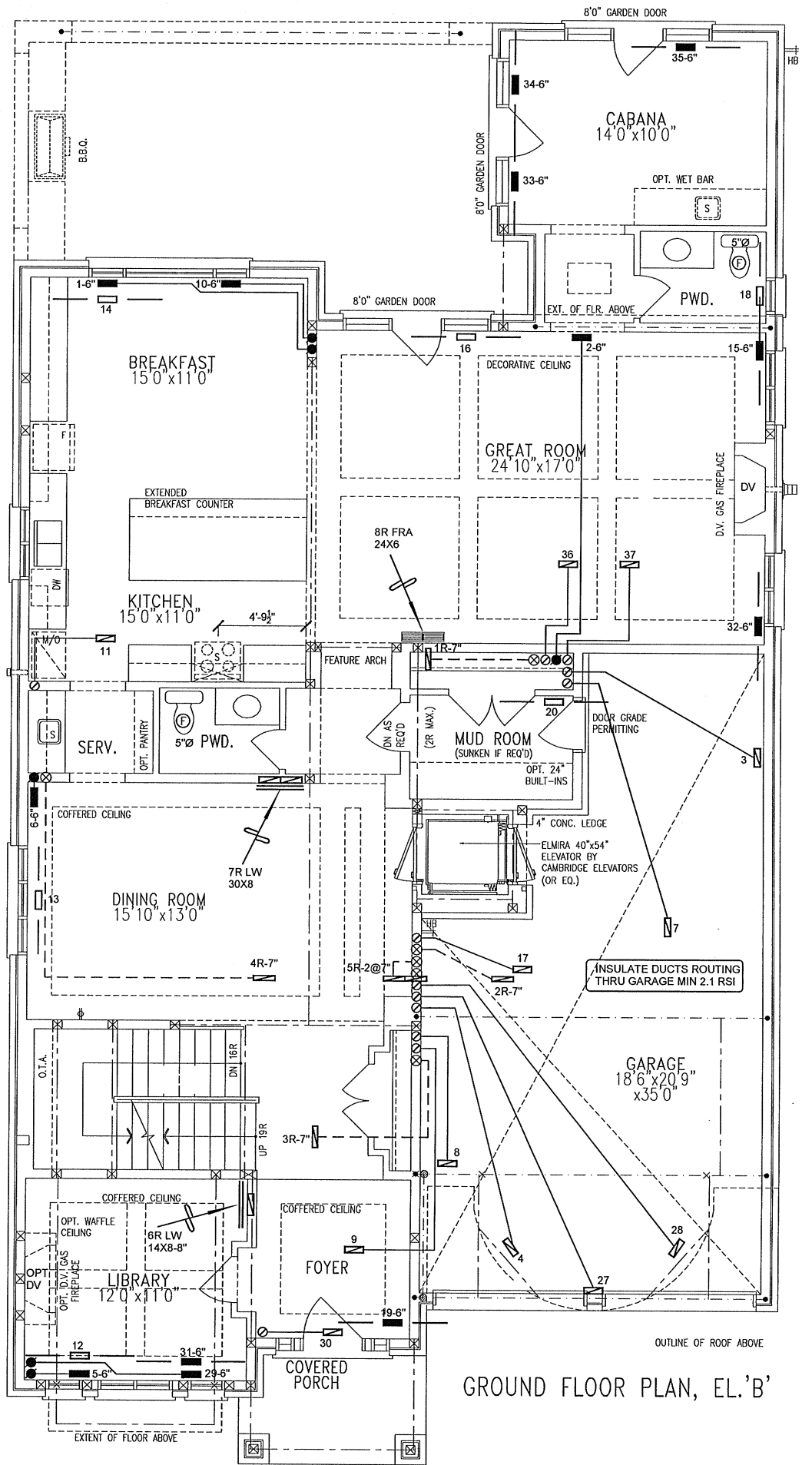
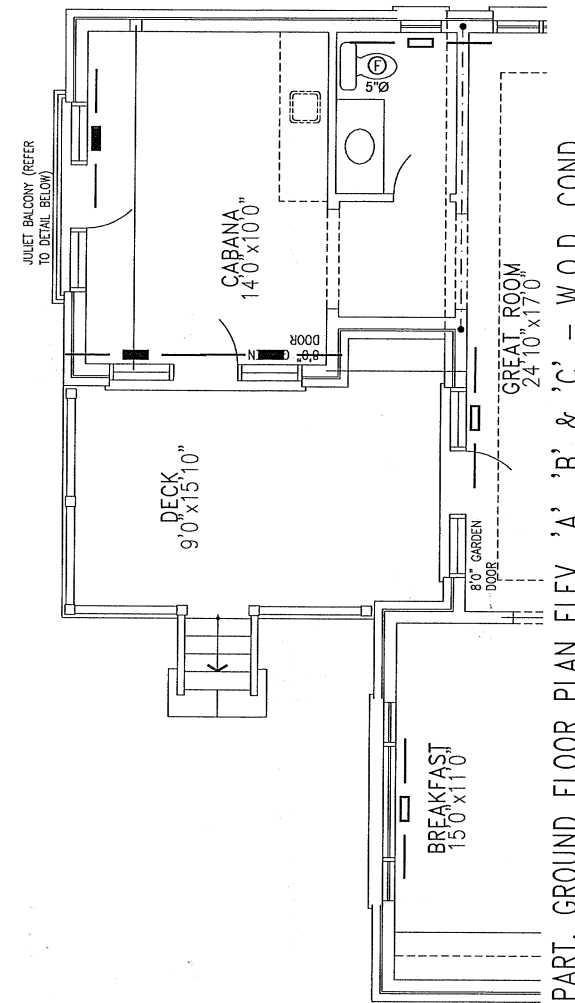
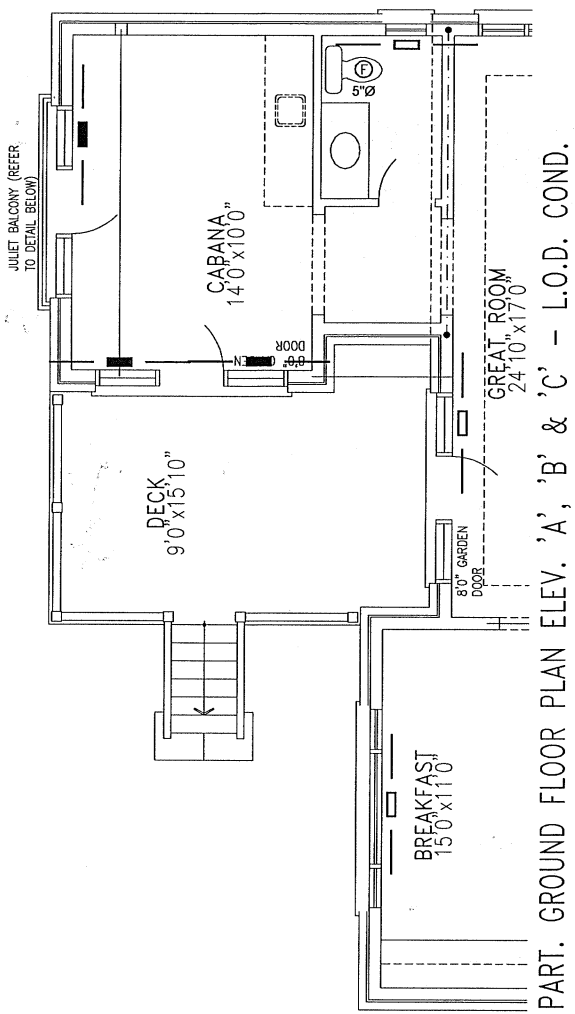
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

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Client		<div><div>HVACDESIGNS LTD.</div><div>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</div><div>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.</div></div>	HEAT LOSS 89736 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GOLDPARK HOMES			MAKE LENNOX	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO KNIGHTSWOOD OPT. ELEVATOR			MODEL EL296UH110XE60C	2ND FLOOR		18	5	7	Date JAN/2018
5005 ELEV. 'B' 4412 sqft			INPUT 110 MBTU/H	1ST FLOOR		13	3	3	
			OUTPUT 106 MBTU/H	BASEMENT		7	1	0	Scale 1/8" = 1'-0"
		COOLING 5.0 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A					BCIN# 19669	
		FAN SPEED 1955 cfm @ 0.6" w.c.						LO# 77534	



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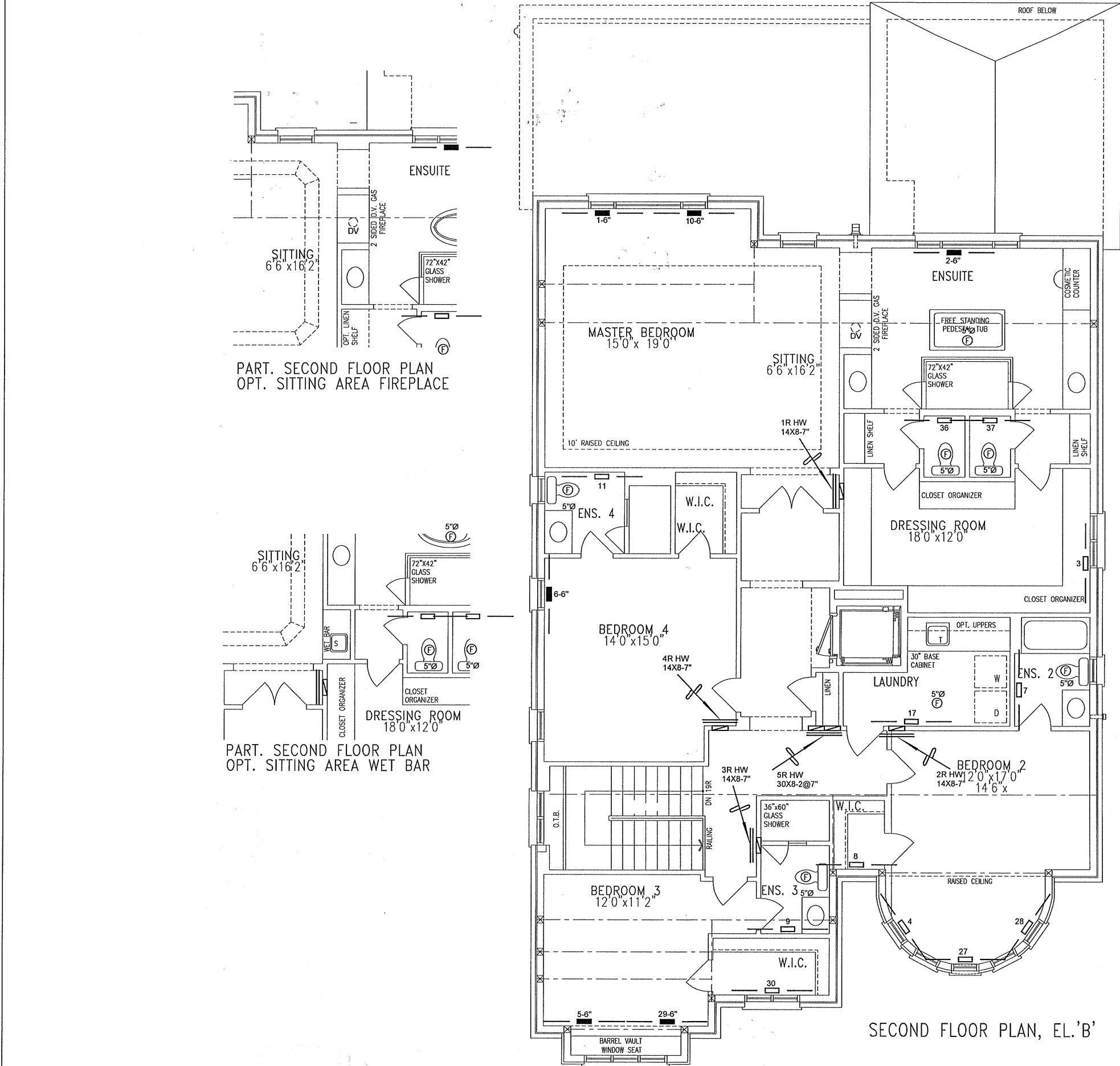
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Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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	FLOOR 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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Project Name			Date		JAN/2018	
PINE VALLEY & TESTON VAUGHAN, ONTARIO		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.	Scale		1/8" = 1'-0"	
KNIGHTSWOOD			BCIN# 19669			
OPT. ELEVATOR			LO# 77534			
5005 ELEV. 'B'		4412 sqft				



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CSA-F280-12

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REVISIONS									

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Client

GOLDPARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
KNIGHTSWOOD
OPT. ELEVATOR
5005 ELEV. 'B' 4412 sqft

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Specializing in Residential Mechanical Design Services
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Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

JAN/2018

Scale

1/8" = 1'-0"

BCIN# 19669

LO#

77534