


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@hvacadesigns.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: 4004 THE DALERIDGE OPT. 5 BEDROOM - WOB Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)				
<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 11, 2018				
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 BUILDERS: GOLD PARK HOMES DATE: Sep-18 DATE: 79970 WINTER NATURAL AIR CHANGE RATE 0.407 HEAT LOSS AT °F. 76 CSA F280-12
TYPE: 4004 THE DALERIDGE OPT. 5 BEDROOM - WOB LO# 79970 SUMMER NATURAL AIR CHANGE RATE 0.137 HEAT GAIN AT °F. 13 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2/3	BED-5	LOFT	ENS-4/5	WIC-3
GRS.WALL AREA	21.3	330	225	90	99	306	90	54	90	380	54	54
GLAZING	21.3	0	0	0	18	0	0	0	0	0	0	0
NORTH	21.3	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	290	897	84	361	246	321	46	72	276	241	38
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	270	347	168	154	198	90	84	108	238	123	56
NO ATTIC EXPOSED CLG	2.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	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	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2492	1896	1605	708	970	3307	910	560	910	3476	578	832
LEVEL FACTOR / MUL TIPLIER	0.20	0.33	0.20	0.33	0.20	0.33	0.20	0.33	0.20	0.33	0.20	0.33
AIR CHANGE HEAT LOSS	819	627	82	233	319	1086	289	184	289	1142	180	273
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	621	621	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3311	2133	1515	940	1289	4832	1209	818	1209	4819	845	1216
TOTAL HT GAIN x 1.3 BTU/H	4222	1515	1742	1358	1358	1358	1358	1358	1358	1358	1358	1358

ROOM USE	EXP. WALL CLG. HT.	DIN	KT/GT	LN/MD	FOY	STUDY	WOB	BAS
GRS.WALL AREA	21.3	264	836	273	550	110	420	988
GLAZING	21.3	0	0	0	0	0	0	0
NORTH	21.3	0	0	0	0	0	0	0
EAST	21.3	0	0	0	0	0	0	0
SOUTH	21.3	0	0	0	0	0	0	0
WEST	21.3	0	0	0	0	0	0	0
SKYLT.	37.2	0	0	0	0	0	0	0
DOORS	25.2	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	238	1052	245	485	87	314	20
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1615	6293	6224	1769	3627	878	4230	4545
LEVEL FACTOR / MUL TIPLIER	0.30	0.57	0.30	0.30	0.30	0.30	0.30	0.50
AIR CHANGE HEAT LOSS	918	3576	473	1006	2081	498	4163	13429
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS	621	621	621	621	621	621	621	621
TOTAL HT LOSS BTU/H	2533	9869	9512	2773	5688	1376	4762	17974
TOTAL HT GAIN x 1.3 BTU/H	1941	1358	1358	1358	1358	1358	1358	1012

TOTAL HEAT GAIN BTU/H: 48950 TONS: 4.08 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 67387 TOTAL COMBINED HEAT LOSS BTU/H: 70578

Michael O'Rourke

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESOPT. 5 BEDROOM - WOB
TYPE: 4004 THE DALERIDGE

GFA: 3341 LO# 78970

DATE: Sep-18

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 67,397 TOTAL HEAT GAIN 48,415
AIR FLOW RATE CFM 22.63 AIR FLOW RATE CFM 31.5

AFUE = 98 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
FAN SPEED 90
DESIGN CFM = 1525
CFM @ .8" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	9	6
R/A	0	0	6	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	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	ENS-4/5	ENS-2/3	BED-5	LOFT	MBR	WIC-3	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LN/MD	BED-4	FOY	STUDY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.66	2.13	0.94	1.29	2.42	0.85	0.82	1.21	2.31	1.66	1.22	2.53	2.47	2.47	2.47	2.47	2.77	1.21	2.84	1.38	3.79	3.79	3.79	3.79
CFM PER RUN HEAT	37	48	21	29	55	19	19	27	52	37	28	57	56	56	56	56	63	27	64	31	86	86	86	86
RM GAIN MBH	2.11	1.52	0.35	1.74	2.83	0.20	0.34	1.94	2.76	2.11	1.19	1.94	2.38	2.38	2.38	2.38	1.36	1.94	1.59	1.40	1.07	1.07	1.07	1.07
CFM PER RUN COOLING	66	48	11	55	89	6	11	61	87	68	37	61	75	75	75	75	43	61	50	44	34	34	34	34
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	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	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	200	150	180	180	190	150	220	200	140	210	180	130	140	150	180	150	180	140	140	140	130	140	110	110
TOTAL EFFECTIVE LENGTH	271	208	201	229	232	190	257	233	184	273	215	148	185	187	199	199	171	195	156	107	186	197	138	131
ADJUSTED PRESSURE	0.06	0.08	0.09	0.08	0.07	0.09	0.07	0.07	0.09	0.06	0.08	0.12	0.09	0.09	0.09	0.09	0.1	0.09	0.11	0.16	0.08	0.08	0.12	0.12
ROUND DUCT SIZE	5	4	4	5	6	4	4	5	5	5	5	4	5	5	5	5	5	5	5	4	6	6	5	5
HEATING VELOCITY (ft/min)	272	551	241	213	280	218	218	198	382	272	321	654	411	411	411	411	483	198	470	356	438	438	631	631
COOLING VELOCITY (ft/min)	485	551	126	404	454	69	126	448	639	485	424	700	551	551	551	551	316	448	367	505	173	250	250	250
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10
TRUNK	A	A	B	B	D	C	D	C	D	A	D	C	A	A	A	A	C	C	C	C	B	B	B	C

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BED-3	LOFT	FOY
RM LOSS MBH	3.79	3.79	2.42	2.31	2.84
CFM PER RUN HEAT	86	86	55	52	64
RM GAIN MBH	1.07	1.07	2.83	2.76	1.59
CFM PER RUN COOLING	34	34	89	87	50
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.17
ACTUAL DUCT LGH	19	32	48	57	25
EQUIVALENT LENGTH	120	120	200	200	120
TOTAL EFFECTIVE LENGTH	139	152	248	257	145
ADJUSTED PRESSURE	0.12	0.11	0.07	0.06	0.12
ROUND DUCT SIZE	5	5	6	6	5
HEATING VELOCITY (ft/min)	631	631	280	265	470
COOLING VELOCITY (ft/min)	250	250	454	444	367
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	3X10
TRUNK	C	D	D	D	D

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.06	10.1	12	519	0	0.00	0	0	0	TRUNK G	0	0.00	0	0	0	0.06	0	0	0
TRUNK B	0.06	12.9	20	589	0	0.00	0	0	0	TRUNK H	0	0.00	0	0	0	0.06	0	0	0
TRUNK C	0.06	15.3	28	675	0	0.00	0	0	0	TRUNK I	0	0.00	0	0	0	0.06	0	0	0
TRUNK D	0.06	11.4	16	534	0	0.00	0	0	0	TRUNK J	0	0.00	0	0	0	0.06	0	0	0
TRUNK E	0.00	0	0	0	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	0	0.06	0	0	0
TRUNK F	0.00	0	0	0	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0	0.06	0	0	0
RETURN AIR #	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0	0	0
AIR VOLUME	120	185	85	95	120	145	305	145	85	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
ACTUAL DUCT LGH	51	36	44	37	45	28	31	23	50	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	155	205	165	165	190	185	195	195	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	226	191	249	202	210	218	216	218	245	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.08	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	6.6	7.5	6	6	6.6	7	9.3	7	6	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	14	14	30	14	14	0	0	0	0	0	0	0	0	0	0

Michael O'Rourke

TYPE: 4004 THE DALERIDGE
SITE NAME: PINE VALLEY & TESTON

LO # 79970
OPT. 5 BEDROOM - WOB

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	<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>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A. TOTAL		<u>201.4</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>201.4</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>46.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>155.0</u> cfm	<u>3.0</u> 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-2/3	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4/5	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

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	<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#: 79970		Model: 4004 THE DALERIDGE		Builder: GOLD PARK HOMES		Date: 9/11/2018																																																																			
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Winter DTDh	22	-20	42																																																																						
Summer DTDc	24	31	7																																																																						
			13																																																																						
5.2.3.1 Heat Loss due to Air Leakage																																																																									
$HL_{air-b} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																																									
0.407	x	381.85	x	42 °C	x	1.2	=	7872 W																																																																	
								=	26859 Btu/h																																																																
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																									
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																									
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h																																																																	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																									
$HL_{air-r} = Level Factor \times HL_{air-bv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x Hlairebv / Hlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">26,859</td> <td>8,774</td> <td>1.531</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>14,182</td> <td>0.568</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,348</td> <td>0.379</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table>										Level	Level Factor (LF)	Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x Hlairebv / Hlevel)	1	0.5	26,859	8,774	1.531	2	0.3	14,182	0.568	3	0.2	16,348	0.379	4	0	0	0.000	5	0	0	0.000																																						
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<p>*Hlairebv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system Hlairev = 0</p>																																																																									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4004 THE DALERIDGE	OPT. 5 BEDROOM - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3341	LO# 79970	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 (ft³):	48546.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	138.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	42.0 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	-

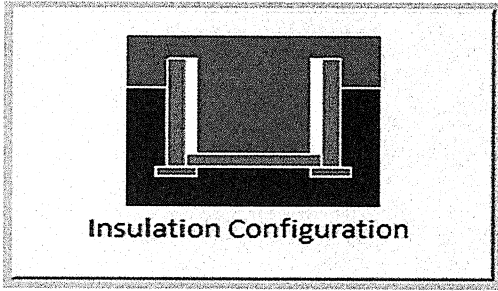
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

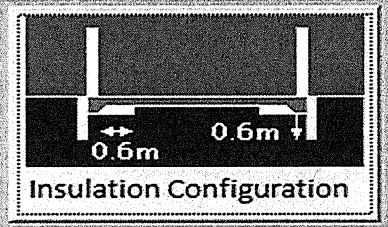
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	42.1	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.79	
Window Area (m ²):	0.6	
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):		710

TYPE: 4004 THE DALERIDGE
LO# 79970

OPT. 5 BEDROOM - WOB

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		
Length (m):	1.5	 Insulation Configuration
Width (m):	9.8	
Exposed Perimeter (m):	12.8	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		156

TYPE: 4004 THE DALERIDGE
LO# 79970

OPT. 5 BEDROOM - WOB

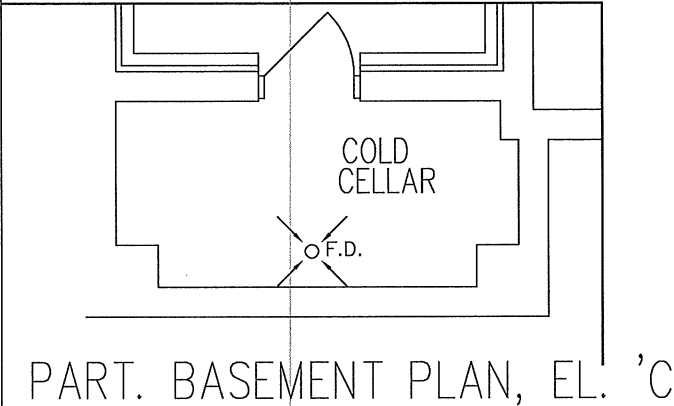
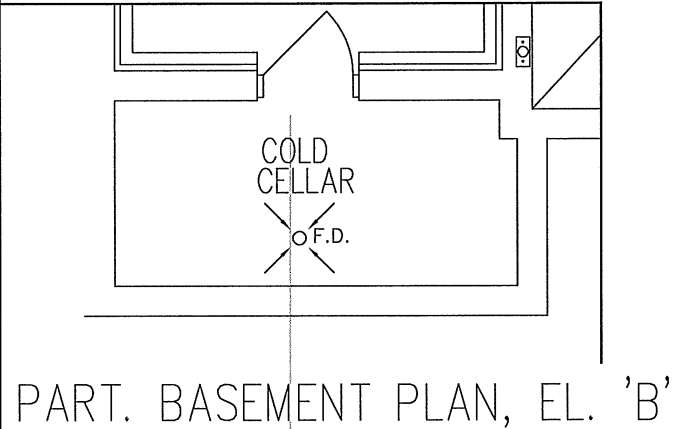
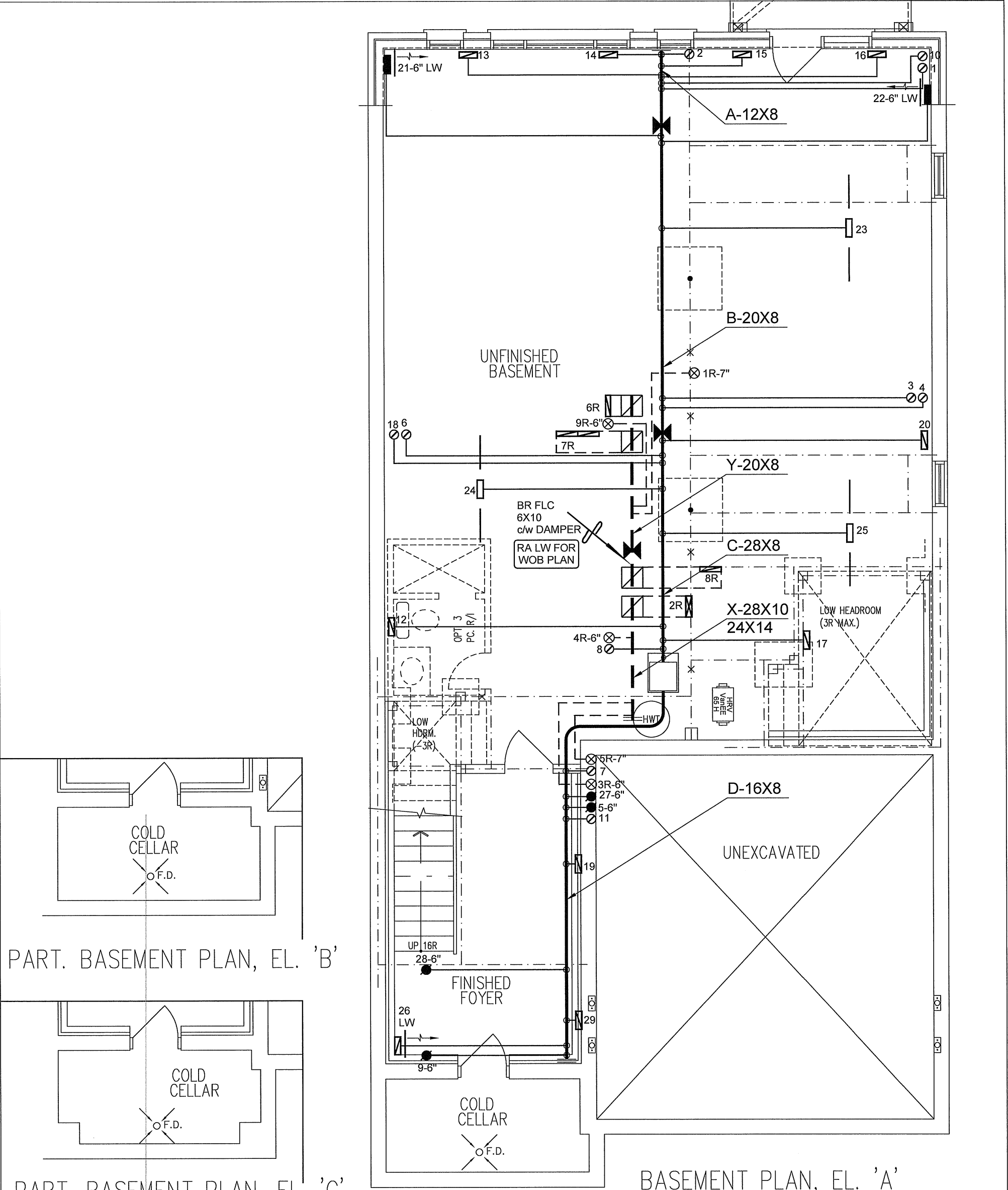
Air Infiltration Residential Load Calculator

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):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1374.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1832.5 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):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 4004 THE DALERIDGE
LO# 79970

OPT. 5 BEDROOM - WOB



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

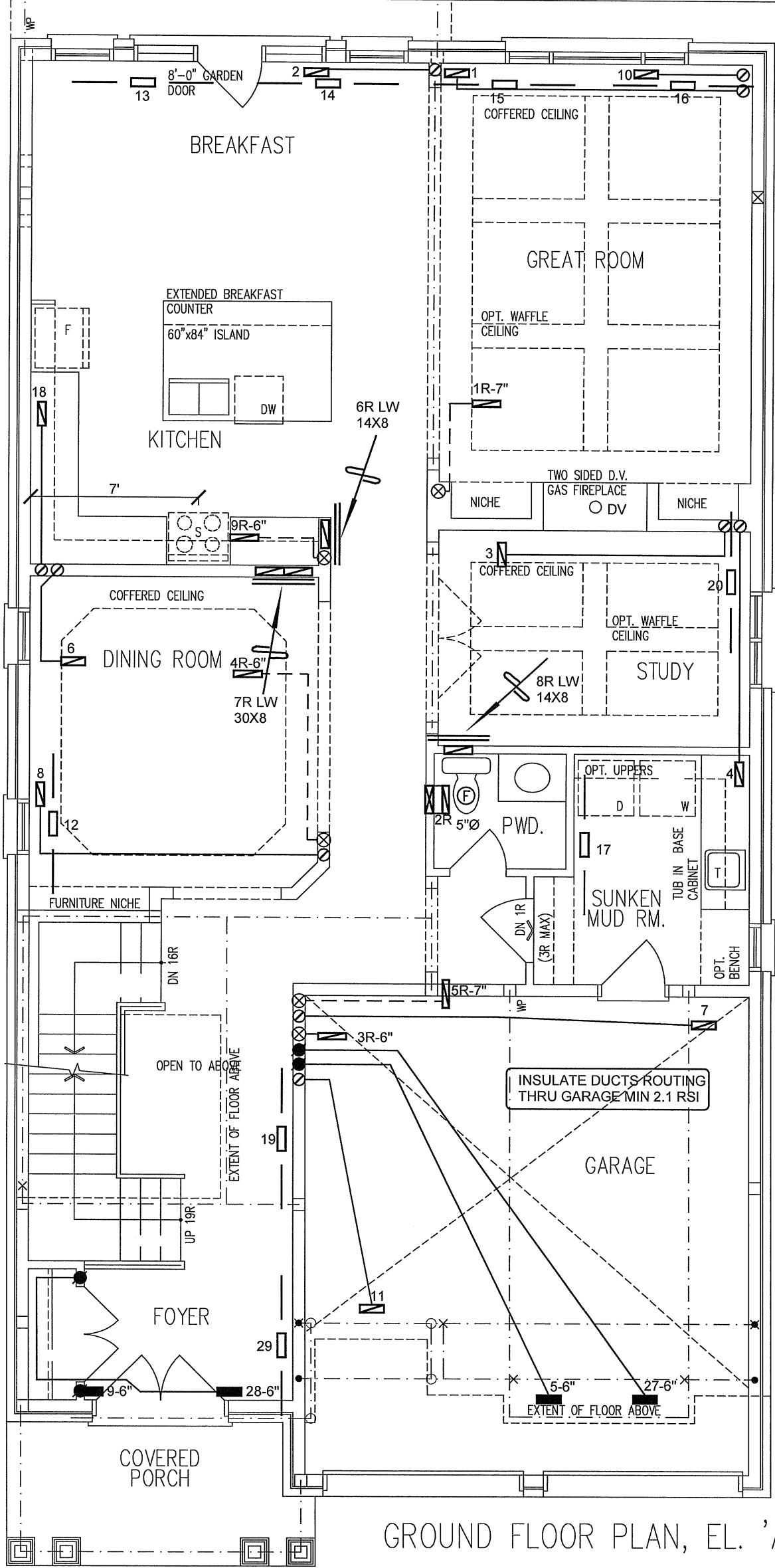
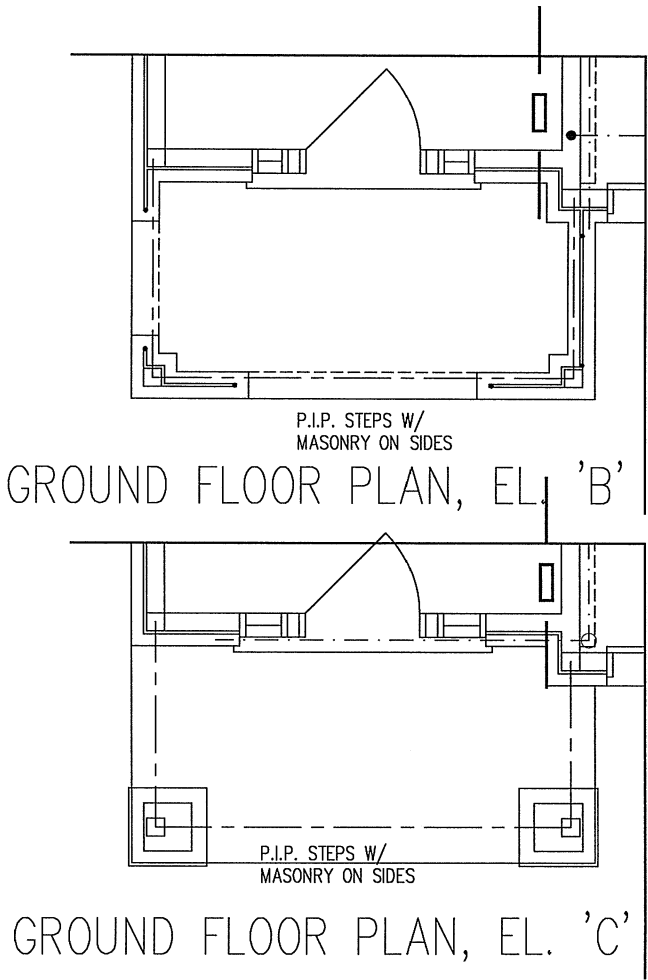
WOB

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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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Client		<div><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></div>	HEAT LOSS 70578 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title			
GOLD PARK HOMES			MAKE LENNOX	MODEL EL296UH090XE48C		INPUT 88 MBTU/H		OUTPUT 85 MBTU/H		BASEMENT HEATING LAYOUT		
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO THE DALERIDGE OPT. 5 BEDROOM 4004 - WOB			COOLING 4.0 TONS		FAN SPEED 1525 cfm @ 0.6" w.c.		3RD FLOOR		2ND FLOOR		1ST FLOOR	
3341 sqft							BASEMENT		14		6	
							6		1		0	
							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		Date		SEPT/2018	
									Scale		3/16" = 1'-0"	
								BCIN#		19669		
								LO#		79970		



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

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

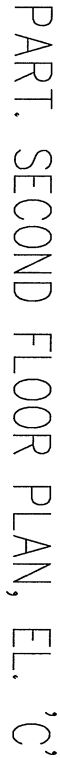
CSA-F280-12

WOB PACKAGE A1

HVAC LEGEND								3.		
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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	SEPT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
THE DALERIDGE			BCIN# 19669	
OPT. 5 BEDROOM			LO#	79970
4004 - WOB			3341 sqft	



Architectural floor plan of the second floor. The plan shows a large room on the left with a vaulted ceiling, indicated by a dashed line and the label "VAULTED CEILING". To the right of this room is a corridor and another large room with a raised ceiling, indicated by a dashed line and the label "RAISED CEILING". The plan includes various rooms, corridors, and structural elements like walls and doors. The text "PART SECOND FLOOR PLAN" is visible at the bottom.

PART. SECOND FLOOR PLAN, ELEVATION, **WOB** PACKAGE A1

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

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GOLD PARK HOMES			SECOND FLOOR	
Project Name			HEATING	
PINE VALLEY & TESTON			LAYOUT	
VAUGHAN, ONTARIO			Date	SEPT/2018
THE DALERIDGE		Scale	3/16" = 1'-0"	
OPT. 5 BEDROOM		BCIN# 19669		
4004 - WOB	3341 sqft	LO# 79970		