


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 - KNIGHTSWOOD CORNER - WOB 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.				
October 1, 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
BUILDER: GOLD PARK HOMES

CORNER - WOB
TYPE: 5005 - KNIGHTSWOOD

DATE: Oct-18
LOF: 80169

WINTER NATURAL AIR CHANGE RATE 0.416
SUMMER NATURAL AIR CHANGE RATE 0.139

HEAT LOSS AT "F" 76
HEAT GAIN AT "F" 13

CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	FACTORS	LOSS	GAIN	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	ENS-4	WIC-3	FAM
GRS.WALL AREA	506		360		506	360	130	352	385	190	60	90	40	70	150	429
GLAZING																
NORTH	21.3	13.9	0	0	0	0	6	0	0	0	8	0	0	0	0	0
EAST	21.3	35.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	21.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	35.2	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
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	433	1932	325	328	1464	247	124	553	93	287	1281	216	323	1441
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	533	684	313	323	415	190	247	317	145	254	326	149	218	280
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS																
SUBTOTAL HT LOSS			4170	2988				3765	2804	1970	211	586	419	582	1075	3764
SUB TOTAL HT GAIN																
LEVEL FACTOR / MULTIPLIER			0.20	0.37				0.20	0.37	0.20	0.20	0.20	0.20	0.20	0.20	0.30
AIR CHANGE HEAT LOSS			1522	934				1374	1291	719	231	214	153	212	392	0.51
AIR CHANGE HEAT GAIN								225	204	99	86	80	57	22	67	1937
DUCT LOSS								514	483	0	0	0	0	0	0	0
DUCT GAIN								391	362	0	23	13	13	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	240	240	240	0	0	0	0	0	0
HEAT APPLIANCES/LIGHTS			641	641			641	641	641	641	0	0	0	0	0	0
TOTAL HT LOSS: BTU/H			5592	3493			2088	5553	5310	2590	949	879	630	794	1467	5701
TOTAL HT GAIN x 1.3 BTU/H				2196			1515	5591	5181	2882	327	180	189	392	1171	5234

ROOM USE	EXP. WALL CLG. HT.	FACTORS	LOSS	GAIN	LIB	DIN	KIT	CAB	LAUN	PWD	FOY	MUD	WOB	BAS
GRS.WALL AREA	385		396		385	396	550	495	0	55	385	216	700	1190
GLAZING														
NORTH	21.3	13.9	0	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	35.2	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	21.3	0	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	35.2	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
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	329	1468	247	362	1616	272	479	2138	369	369	1647	277
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	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	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS														
SUBTOTAL HT LOSS			2660	2220			3649	4886	274	507	3120	1380	1155	3440
SUB TOTAL HT GAIN				998			2583	4097	84	210	558	232	7121	6121
LEVEL FACTOR / MULTIPLIER			0.30	0.51			0.30	0.51	0.20	0.30	0.30	0.30	0.50	1.44
AIR CHANGE HEAT LOSS			1369	1203			1877	2514	100	261	1605	710	5741	19126
AIR CHANGE HEAT GAIN				80			208	329	7	17	45	19	0	511
DUCT LOSS				0			0	0	37	0	0	0	0	0
DUCT GAIN				0			0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0	0	0	0
HEAT APPLIANCES/LIGHTS			641	641			641	641	641	641	0	641	0	0
TOTAL HT LOSS: BTU/H			4028	3542			5526	7400	411	767	4725	2090	8276	25247
TOTAL HT GAIN x 1.3 BTU/H				2234			4461	6586	1046	295	784	1159	7464	2298

TOTAL HEAT GAIN BTU/H: 61325

TONS: 5.11

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 97360

TOTAL COMBINED HEAT LOSS BTU/H: 100541

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

Michael O'Rourke

INDIVIDUAL BCIN: 19569

MICHAEL O'ROURKE

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

CORNER - WOB

TYPE: 5005 - KNIGHTSWOOD

GFA: 4478 LO# 80169

DATE: Oct-18

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 97,360 TOTAL HEAT GAIN 60,790
AIR FLOW RATE CFM 20.08 AIR FLOW RATE CFM 32.16

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	19	13
R/A	0	0	0	5	3

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
RM LOSS MBH	1.90	2.76	2.09	2.83	2.66	1.34	0.95	0.88	0.63	1.90	0.79	2.01	3.54	2.76	2.76	2.85	0.41	0.77	4.72	2.09	4.19	4.19	4.19	4.19
CFM PER RUN HEAT	38	56	42	57	53	27	19	13	38	16	40	71	55	55	55	57	8	15	95	42	84	84	84	84
RM GAIN MBH	1.88	2.13	1.52	2.80	2.59	1.44	0.33	0.18	0.19	1.88	0.39	1.98	2.23	2.23	2.23	2.62	1.05	0.30	0.78	1.16	1.22	1.22	1.22	1.22
CFM PER RUN COOLING	61	69	49	90	83	46	11	6	6	61	13	64	72	72	72	84	34	9	25	37	39	39	39	39
ADJUSTED PRESSURE	0.16	0.16	0.16	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15
EQUIVALENT LENGTH	190	200	170	160	170	160	200	200	150	170	150	140	103	120	140	110	200	170	210	160	190	150	140	90
TOTAL EFFECTIVE LENGTH	260	270	223	209	245	208	247	198	223	234	209	197	132	172	184	164	236	243	250	207	274	210	210	128
ADJUSTED PRESSURE	0.06	0.06	0.07	0.07	0.06	0.08	0.06	0.08	0.07	0.07	0.07	0.08	0.12	0.09	0.09	0.09	0.07	0.06	0.06	0.08	0.05	0.07	0.07	0.11
ROUND DUCT SIZE	5	6	5	6	6	4	4	4	4	5	4	5	5	5	5	5	4	4	6	4	6	6	6	5
HEATING VELOCITY (ft/min)	279	286	308	291	270	310	218	207	149	279	184	294	521	404	404	419	92	172	484	482	428	428	428	617
COOLING VELOCITY (ft/min)	448	352	360	459	423	528	126	69	69	448	149	470	529	529	529	617	390	103	127	424	199	199	199	286
OUTLET GRILL SIZE	3X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10
TRUNK	D	C	E	G	F	E	E	G	G	D	E	F	E	C	E	H	G	A	F	C	A	C	D	E

TEMPERATURE RISE 50 °F

EL296UH110XE60C 110

AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000DESIGN CFM = 1955
CFM @ 0.5" E.S.P. =

FAN SPEED

LOW

MEDIUM

HIGH

^LENNOX

FAN SPEED

LOW

MEDIUM

HIGH

SUPPLY 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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.05	9.4	10	8	249	0.05	9.4	10	8	249	0.05	9.4	10	8
TRUNK B	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.05	13.4	20	8	643	0.05	13.4	20	8	643	0.05	13.4	20	8
TRUNK D	0.06	9.2	10	8	270	0.06	9.2	10	8	270	0.06	9.2	10	8
TRUNK E	0.05	17.4	28	10	1294	0.05	17.4	28	10	1294	0.05	17.4	28	10
TRUNK F	0.06	10.6	14	8	394	0.06	10.6	14	8	394	0.06	10.6	14	8

RETURN AIR

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.05	9.4	10	8	249	0.05	9.4	10	8	249	0.05	9.4	10	8
TRUNK B	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.05	13.4	20	8	643	0.05	13.4	20	8	643	0.05	13.4	20	8
TRUNK D	0.06	9.2	10	8	270	0.06	9.2	10	8	270	0.06	9.2	10	8
TRUNK E	0.05	17.4	28	10	1294	0.05	17.4	28	10	1294	0.05	17.4	28	10
TRUNK F	0.06	10.6	14	8	394	0.06	10.6	14	8	394	0.06	10.6	14	8

TYPE: 5005 - KNIGHTSWOOD
SITE NAME: PINE VALLEY & TESTON

LO # 80169
CORNER - 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	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	$\Delta T \cdot F$	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 @ 32 deg F (0 deg C)	<input checked="" type="checkbox"/> 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:	October-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																											
LO#: 80169	Model: 5005 - KNIGHTSWOOD																										
Formula Sheet (For Air Leakage / Ventilation Calculation)																											
Date: 10/1/2018																											
Builder: GOLD PARK HOMES																											
Air Change & Delta T Data																											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 50%;">0.416</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.139</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.416	SUMMER NATURAL AIR CHANGE RATE	0.139																						
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> <tr> <td></td> <td></td> <td></td> <td>13</td> </tr> </table>		Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7				13						
Design Temperature Difference																											
	Tin °C	Tout °C	ΔT °C																								
Winter DTDh	22	-20	42																								
Summer DTDc	24	31	7																								
			13																								
6.2.6 Sensible Gain due to Air Leakage																											
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>0.416 x 532.07 x 7 °C x 1.2 = 633 W</p>																											
6.2.7 Sensible heat Gain due to Ventilation																											
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>155 CFM x 13 °F x 1.08 x 0.25 = 536 Btu/h</p>																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																											
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLaive Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLaiveb / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">38,253</td> <td>13,242</td> <td>1.444</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>22,304</td> <td>0.515</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>20,960</td> <td>0.365</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> </table> <p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLaive = 0</p>		Level	Level Factor (LF)	HLaive Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLaiveb / HLlevel)	1	0.5	38,253	13,242	1.444	2	0.3	22,304	0.515	3	0.2	20,960	0.365	4	0	0	0.000	5	0	0	0.000
Level	Level Factor (LF)	HLaive Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLaiveb / HLlevel)																							
1	0.5	38,253	13,242	1.444																							
2	0.3		22,304	0.515																							
3	0.2		20,960	0.365																							
4	0		0	0.000																							
5	0		0	0.000																							

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5005 - KNIGHTSWOOD**CORNER - WOB****BUILDER:** GOLD PARK HOMES**SFQT:** 4478**LO#** 80169**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):	67644.0	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: 75.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	170.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	70.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

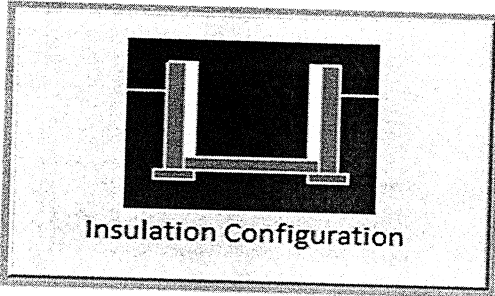
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

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):	7.9	
Floor Width (m):	13.7	
Exposed Perimeter (m):	51.8	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.91	
Window Area (m ²):	1.5	
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):	1008	

TYPE: 5005 - KNIGHTSWOOD
LO# 80169

CORNER - WOB

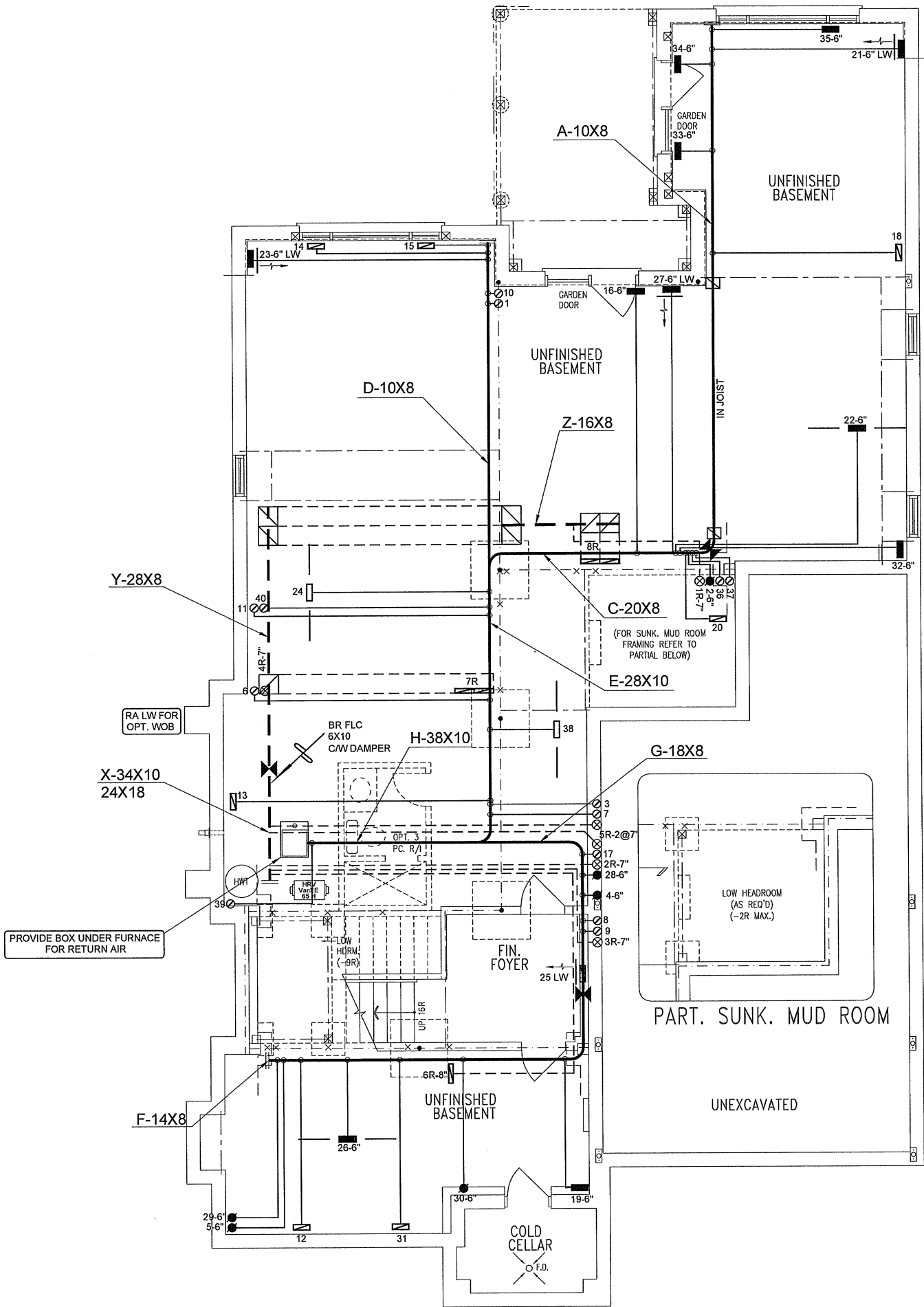
Air Infiltration Residential Load Calculator

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):	9.45		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1915.5		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	2553.4 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
Diameter (mm):	0	0	0
		#4	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.416		
Cooling Air Leakage Rate (ACH/H):	0.139		

TYPE: 5005 - KNIGHTSWOOD
LO# 80169

CORNER - WOB



BASEMENT PLAN, EL. 'B'

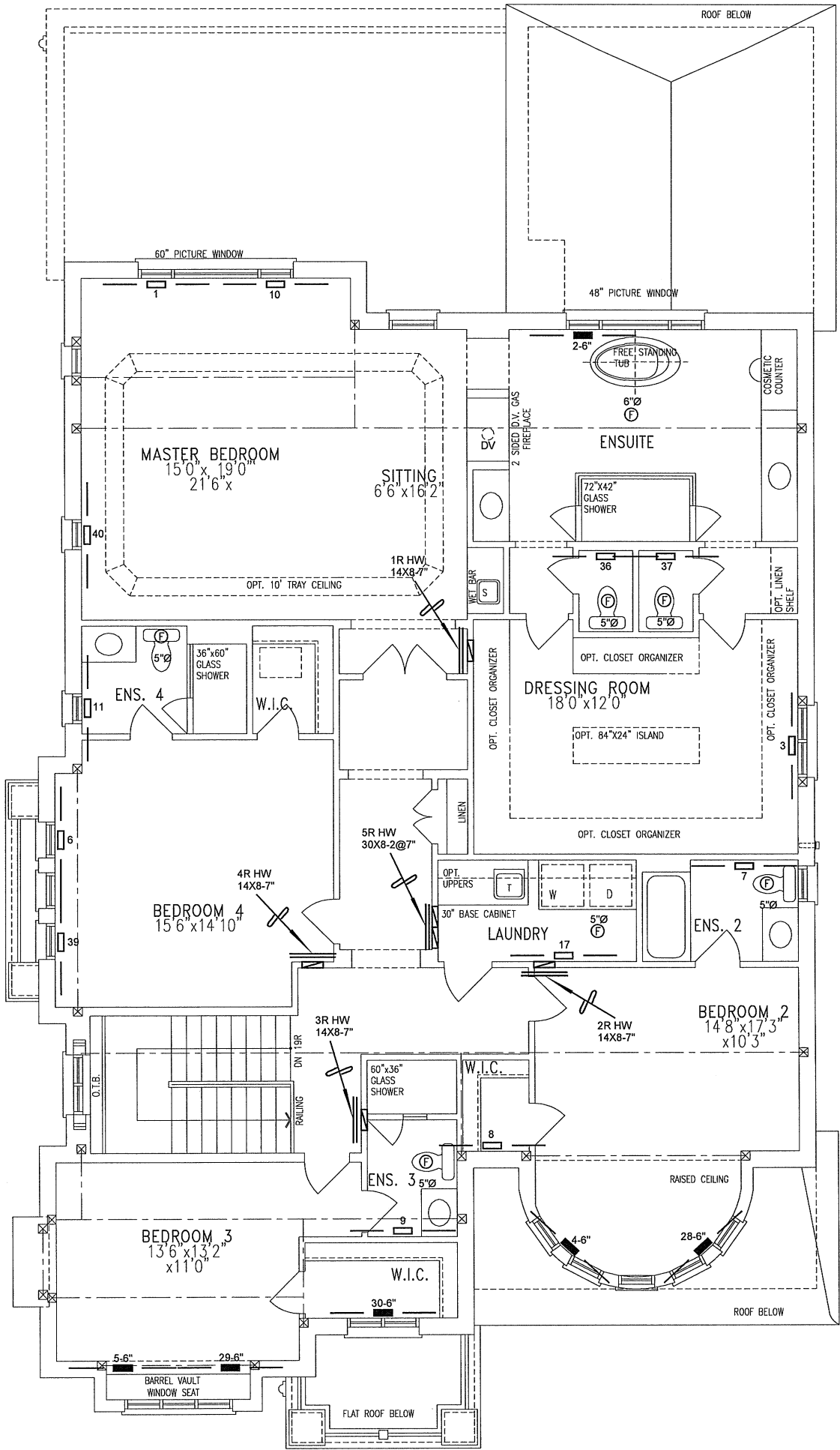
WOB
CSA-F280-12
PACKAGE A1

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.

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.		
	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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Client		<div></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>	HEAT LOSS 100541 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GOLDPARK HOMES			MAKE	LENNOX	3RD FLOOR				BASEMENT HEATING LAYOUT	
			MODEL	EL296UH110XE60C	2ND FLOOR	19	5	7		
			INPUT	110 MBTU/H	1ST FLOOR	13	3	3		
			OUTPUT	106 MBTU/H	BASEMENT	8	1	0	Date	OCT/2018
			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			Scale	1/8" = 1'-0"	
FAN SPEED	1955 cfm @ 0.6" w.c.		BCIN# 19669							
Project Name						LO#		80169		
PINE VALLEY & TESTON VAUGHAN, ONTARIO										
KNIGHTSWOOD - CORNER 5005 - WOB 4478 sqft										



SECOND FLOOR PLAN, EL. 'B'

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.

WOB
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.		
	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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GOLDPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
KNIGHTSWOOD - CORNER			BCIN# 19669	
5005 - WOB	4478 sqft		LO#	80169