


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: 4006 THE LILAC CNR - 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.				
October 5, 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 TYPE: 4006 THE LILAC CNR - WOB DATE: Oct-18 WINTER NATURAL AIR CHANGE RATE 0.398 HEAT LOSS AT °F: 76 CSA-F280-12
BUILDERS: GOLD PARK HOMES TYPE: 4006 THE LILAC GFA: 3373 LO# 80233 SUMMER NATURAL AIR CHANGE RATE 0.134 HEAT GAIN AT °F: 13 SB-12 PACKAGE A1

ROOM USE	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-3	ENS-2	TOTAL HT LOSS BTU/H
EXP. WALL CLG. HT.	36 10	28 9	10 9	43 9	34 9	17 9	11 9	5 9	14 9	
GRS.WALL AREA	360	252	90	387	306	153	99	45	126	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	0	0	0	0	0	0	0	0	8	170
EAST	0	0	0	52	830	1621	0	0	0	0
SOUTH	0	0	0	0	39	830	12	0	0	0
WEST	0	0	0	0	0	0	255	0	0	0
SKYLT.	40	851	1662	0	0	0	0	0	0	0
DOORS	37.2	101.5	0	0	0	0	0	0	0	0
NET EXPOSED WALL	25.2	4.3	0	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	4.5	0.8	320	1428	241	192	857	144	118	527
EXPOSED CLG	3.6	0.6	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	1.3	0.6	315	404	185	163	209	96	40	51
EXPOSED FLOOR	2.7	1.3	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.6	0.4	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	2684	2409	607	3884	2941	1989	785	354	859	
SUB TOTAL HT GAIN	0.20	0.31	1897	2759	2884	1585	429	75	291	
LEVEL FACTOR / MULTIPLIER	833	748	188	1206	913	617	244	110	257	
AIR CHANGE HEAT LOSS	0	0	0	509	0	0	0	46	0	
DUCT LOSS	0	0	0	383	0	0	0	8	0	
DUCT GAIN	2	480	0	1	240	1	0	0	0	
HEAT GAIN PEOPLE	625	0	0	5599	625	2606	1028	0	0	
HEAT GAIN APPLIANCES/LIGHTS	3517	3157	795	5477	3554	2606	1028	511	1125	
TOTAL HT LOSS BTU/H	4354	2851	795	5477	5155	3339	599	115	405	

ROOM USE	DIN	KTGR	LIB	LAUN	FOY	MUD	WOB	BAS	TOTAL HT LOSS BTU/H
EXP. WALL CLG. HT.	22 11	78 11	53 11	0 11	20 11	33 13	43 9	149 9	
GRS.WALL AREA	242	858	583	0	220	429	387	894	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	0	0	0	0	0	0	0	0	3
EAST	0	0	39	830	1621	0	0	0	0
SOUTH	45	958	39	830	1245	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	58	1234	2410
DOORS	25.2	4.3	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	197	879	148	20	505	85	20
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	409	1825	307	309
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0
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	1837	6517	3968	457	1813	2330	552	2489	
SUB TOTAL HT GAIN	0.30	0.45	0.30	0.45	0.30	0.45	392	4666	
LEVEL FACTOR / MULTIPLIER	834	2961	1803	207	824	1059	2727	0.50	1.54
AIR CHANGE HEAT LOSS	0	0	0	66	23	0	0	12814	234
DUCT LOSS	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	625	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	2571	9479	5771	731	2637	3389	4221	17481	
TOTAL HT LOSS BTU/H	2585	9347	5000	1112	427	1361	3546	1643	

TOTAL HEAT GAIN BTU/H: 47879 TONS: 3.99 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 86573 TOTAL COMBINED HEAT LOSS BTU/H: 71753

Michael O'Rourke

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESCNR - WOB
TYPE: 4006 THE LILAC

DATE: Oct-18

GFA: 3373 LO# 80233

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 68,573 TOTAL HEAT GAIN 47,344
AIR FLOW RATE CFM 22.24 AIR FLOW RATE CFM 32.21AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	10	6
R/A	0	0	5	3	1

DESIGN CFM = 1525
CFM @ .6" E.S.P.

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

TEMPERATURE RISE 52 °F

RUN #	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	DIN	KT/GR	KT/GR	KT/GR	LAUN	KT/GR	FOY	ENS	BED-4	MUD	LIB	LIB
RM LOSS MBH	1.76	1.58	0.80	2.80	1.93	1.30	1.03	2.80	1.93	1.76	1.13	2.67	2.37	2.37	2.37	2.37	0.73	2.37	2.64	1.58	1.30	3.39	2.89
CFM PER RUN HEAT	39	35	18	62	43	29	23	62	43	39	25	59	53	53	53	16	53	59	35	29	75	64	64
RM GAIN MBH	2.18	1.33	0.23	2.74	2.58	1.67	0.60	2.74	2.58	2.18	0.41	2.59	2.34	2.34	2.34	1.11	2.34	0.43	1.33	1.67	1.36	2.50	2.50
CFM PER RUN COOLING	70	43	7	88	83	54	19	88	83	70	13	83	75	75	75	36	75	14	43	54	44	81	81
ADJUSTED PRESSURE	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH.	36	47	21	75	77	38	62	81	76	44	74	31	26	33	31	62	38	37	38	49	47	54	58
EQUIVALENT LENGTH	120	160	190	130	170	180	140	160	140	140	170	150	160	140	90	150	110	150	190	190	180	120	120
TOTAL EFFECTIVE LENGTH	156	207	211	205	247	218	202	241	216	184	244	181	186	173	121	212	148	187	228	239	227	174	178
ADJUSTED PRESSURE	0.11	0.08	0.08	0.08	0.07	0.08	0.09	0.07	0.08	0.09	0.07	0.09	0.09	0.1	0.14	0.08	0.12	0.09	0.08	0.07	0.08	0.09	0.09
ROUND DUCT SIZE	5	4	4	6	6	5	4	6	6	5	4	5	5	5	5	4	5	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	286	402	207	316	219	213	254	316	219	286	287	433	389	389	389	184	389	433	402	213	551	470	470
COOLING VELOCITY (ft/min)	514	493	80	449	423	396	218	449	423	514	149	609	551	551	551	413	551	103	493	396	323	595	595
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	D	E	B	A	C	B	B	A	D	B	C	F	F	D	B	D	B	C	B	C	A	A

RUN #	25	26	27	28	29	30	31
ROOM NAME	BAS	BAS	BAS	BAS	BAS	WIC-3	BAS
RM LOSS MBH	3.62	3.62	3.62	3.62	3.62	0.51	3.62
CFM PER RUN HEAT	80	80	80	80	80	11	80
RM GAIN MBH	0.86	0.86	0.86	0.86	0.86	0.11	0.86
CFM PER RUN COOLING	28	28	28	28	28	4	28
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	43	23	23	32	52	65	46
EQUIVALENT LENGTH	180	150	120	130	130	200	170
TOTAL EFFECTIVE LENGTH	223	173	143	162	182	265	216
ADJUSTED PRESSURE	0.08	0.1	0.12	0.11	0.09	0.06	0.08
ROUND DUCT SIZE	5	5	5	5	4	4	5
HEATING VELOCITY (ft/min)	587	587	587	587	587	126	587
COOLING VELOCITY (ft/min)	206	206	206	206	206	46	206
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	F	C	C	A	A	D

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	0.06	9.7	12	458	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	0.06	12.3	18	581	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.06	14.7	26	650	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	0.08	17.6	28	682	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0.06	17.6	28	783	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0.08	11.3	14	726	0	0.00	0	0	0	0	0.00	0	0	0

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	0.06	9.7	12	458	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	0.06	12.3	18	581	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.06	14.7	26	650	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	0.08	17.6	28	682	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0.06	17.6	28	783	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0.08	11.3	14	726	0	0.00	0	0	0	0	0.00	0	0	0

TYPE: 4006 THE LILAC
SITE NAME: PINE VALLEY & TESTON

LO # 80233
CNR - 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	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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	190.8	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	35.8	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	Sones
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3

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:	October-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																							
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																							
LO#: 80233	Model: 4006 THE LILAC	Builder: GOLD PARK HOMES	Date: 10/5/2018																																																																				
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6.2.6 Sensible Gain due to Air Leakage																																																																							
$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ $= 0.134 \times 372.71 \times 7 \times 1.2 = 425 \text{ W}$ $= 25628 \text{ Btu/h}$																																																																							
6.2.7 Sensible heat Gain due to Ventilation																																																																							
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ $155 \text{ CFM} \times 76 \text{ °F} \times 1.08 \times 0.25 = 3181 \text{ Btu/h}$																																																																							
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																							
$HL_{airrr} = Level \text{ Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{aglevel} + HL_{bglevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td style="text-align: center;">0.5</td> <td rowspan="4" style="text-align: center;">25,628</td> <td style="text-align: center;">8,336</td> <td style="text-align: center;">1.537</td> </tr> <tr> <td>2</td> <td style="text-align: center;">0.3</td> <td style="text-align: center;">16,923</td> <td style="text-align: center;">0.454</td> </tr> <tr> <td>3</td> <td style="text-align: center;">0.2</td> <td style="text-align: center;">16,512</td> <td style="text-align: center;">0.310</td> </tr> <tr> <td>4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>5</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> </table> <p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>				Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	25,628	8,336	1.537	2	0.3	16,923	0.454	3	0.2	16,512	0.310	4	0	0	0.000	5	0		0	0.000																																									
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4006 THE LILAC	CNR - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3373	LO# 80233	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):	47384.0	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:	6.0 ft
LENGTH: 63.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	149.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	43.0 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	-

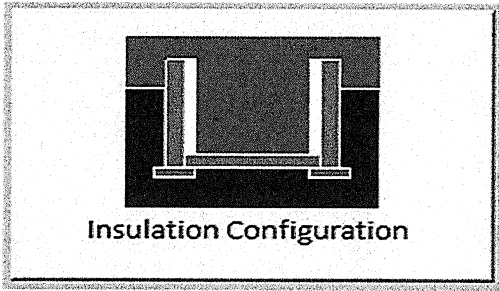
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

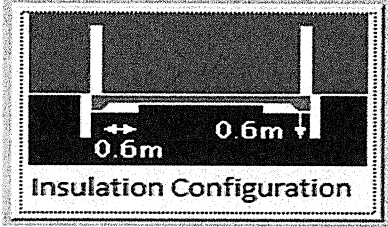
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	45.4	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.54	
Window Area (m ²):	0.3	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		729

TYPE: 4006 THE LILAC
LO# 80233

CNR - 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):	10.1	
Exposed Perimeter (m):	13.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		162

TYPE: 4006 THE LILAC
LO# 80233

CNR - WOB

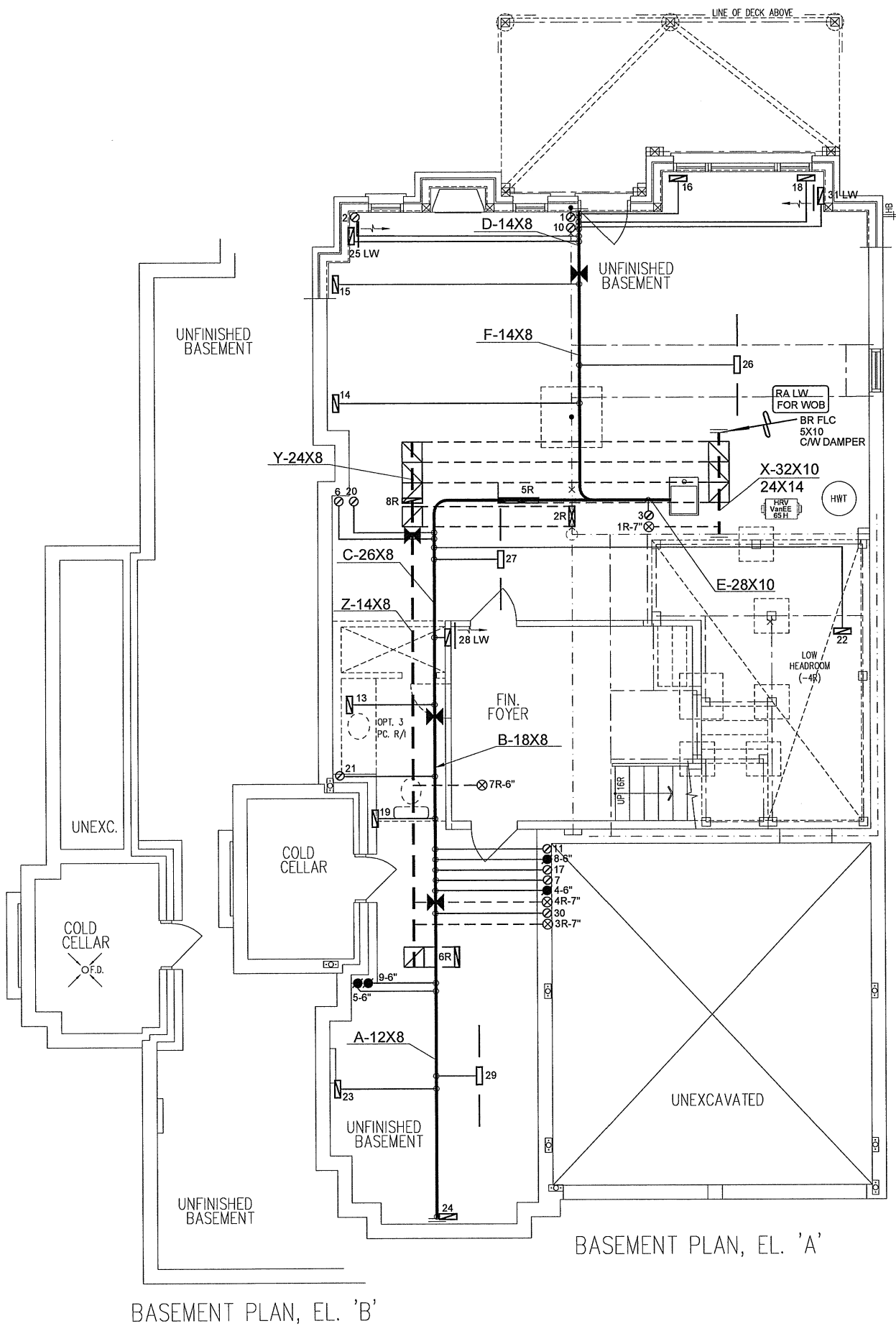
Air Infiltration Residential Load Calculator

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):	8.84			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1341.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1788.6 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):	0.398			
Cooling Air Leakage Rate (ACH/H):	0.134			

TYPE: 4006 THE LILAC
LO# 80233

CNR - WOB



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

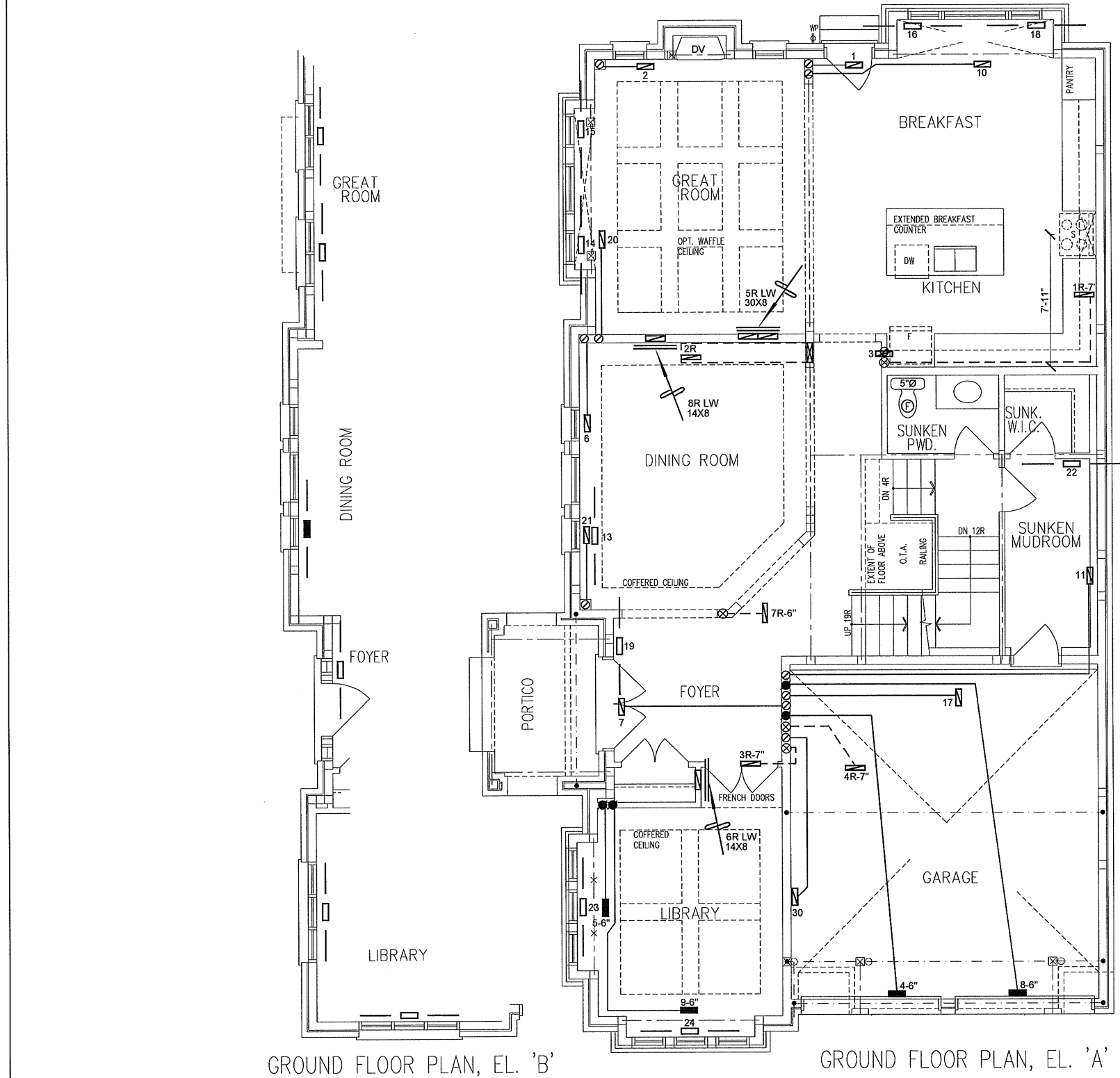
WOB

PACKAGE A1

HVAC LEGEND							3.		
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 GOLD PARK HOMES	 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	HEAT LOSS 71753 BTU/H UNIT DATA MAKE LENNOX MODEL EL296UH090XE48C INPUT 88 MBTU/H OUTPUT 85 MBTU/H COOLING 4.0 TONS FAN SPEED 1525 cfm @ 0.6" w.c.	# OF RUNS S/A R/A FANS 3RD FLOOR 2ND FLOOR 14 5 5 1ST FLOOR 10 3 2 BASEMENT 6 1 0	Sheet Title BASEMENT HEATING LAYOUT Date OCT/2018 Scale 1/8" = 1'-0"
Project Name 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.		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
THE LILAC - WOB 4006 CNR 3373 sqft				LO# 80233



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

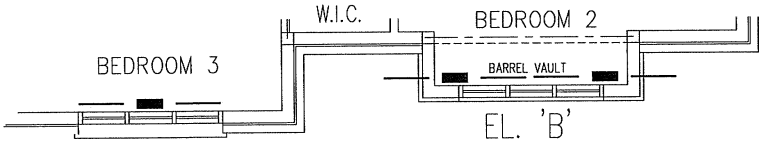
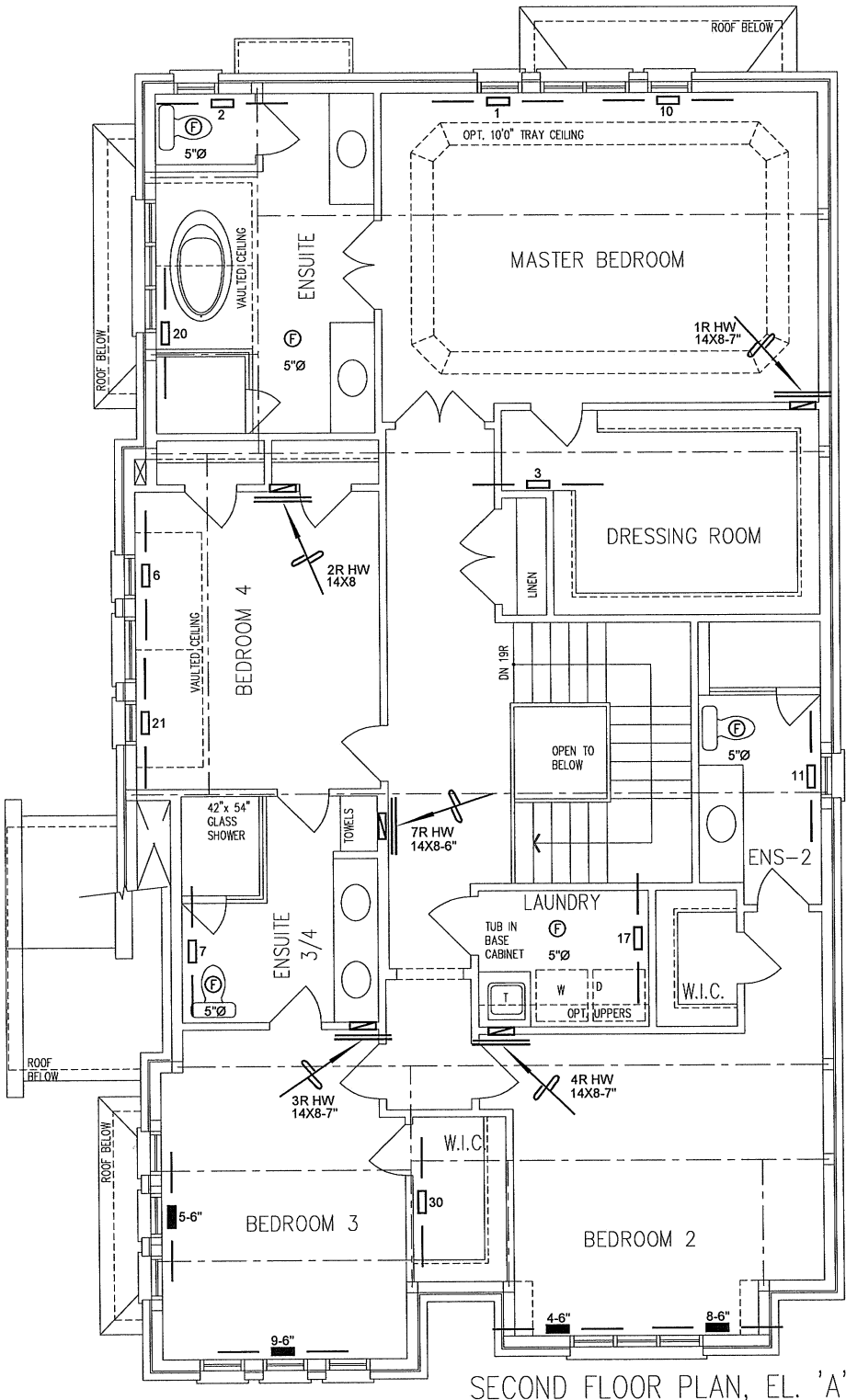
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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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>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE LILAC - WOB			BCIN# 19669	
4006 CNR	3373 sqft		LO#	80233

PARTIAL SECOND FLOOR PLAN, EL. 'B'



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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

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Client		<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>	Sheet Title	
GOLD PARK HOMES			SECOND 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	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE LILAC - WOB			BCIN# 19669	
4006 CNR			LO#	80233
3373 sqft				