


## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>			
Building number, street name			Unit no.
Municipality VAUGHAN (WOODBIDGE)			Postal code
Plan number/ other description			Lot/con.
<b>B. Individual who reviews and takes responsibility for design activities</b>			
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 ( )	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]</b>			
<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		<b>Model:</b> 5006 CNR  THE SILVERWOOD - WOB  <b>Project:</b> PINE VALLEY & TESTON	
<b>D. Declaration of Designer</b>			
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 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 BUILDER: GOLD PARK HOMES TYPE: 5006 CNR THE SILVERWOOD - WOB DATE: 04-18 LO# 80243 GFA: 3453 WINTER NATURAL AIR CHANGE RATE 0.383 HEAT LOSS AT "F" 76 CSA-F280-12 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-2	MEDIA	ENS-2
GRS.WALL AREA GLAZING	FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	21.3 16.0	0	0	0	0	0	0	0	0	0	0
EAST	21.3 41.6	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3 24.9	30 638 747	0	0	0	0	0	0	0	0	0
WEST	21.3 41.6	54 1149 2244	0	0	0	0	0	0	0	0	0
SKYLT.	37.2 101.5	0	0	0	0	0	0	0	0	0	0
DOORS	25.2 4.3	10 252 43	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5 0.8	412 1839 310	80 357 50	0	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.6	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3 0.6	269 345 158	117 150 69	63 81 37	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
EXPOSED FLOOR	2.6 0.4	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		4224	1146	81	975	632	1534	1005	550	1023	785
SUB TOTAL HT GAIN		3501	608	37	412	632	1534	1005	550	1023	785
LEVEL FACTOR / MULTIPLIER		0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38	0.30 0.38
AIR CHANGE HEAT LOSS		1604	435	31	370	1681	2532	894	525	910	298
AIR CHANGE HEAT GAIN		313	54	3	37	57	137	190	112	0	12
DUCT LOSS		0	0	0	0	0	0	0	0	0	0
DUCT GAIN		0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE		2	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS		875	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H		5928	1581	112	1345	3570	875	2089	1227	1932	1084
TOTAL HT GAIN x 1.3 BTU/H		6720	861	52	2033	2545	3985	506	195	2205	187

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-2	MEDIA	ENS-2
GRS.WALL AREA GLAZING	FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	21.3 16.0	0	0	0	0	0	0	0	0	0	0
EAST	21.3 41.6	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3 24.9	30 638 747	0	0	0	0	0	0	0	0	0
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SKYLT.	37.2 101.5	0	0	0	0	0	0	0	0	0	0
DOORS	25.2 4.3	10 252 43	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5 0.8	412 1839 310	80 357 50	0	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.6	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3 0.6	269 345 158	117 150 69	63 81 37	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
EXPOSED FLOOR	2.6 0.4	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		4224	1146	81	975	632	1534	1005	550	1023	785
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AIR CHANGE HEAT LOSS		1604	435	31	370	1681	2532	894	525	910	298
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DUCT LOSS		0	0	0	0	0	0	0	0	0	0
DUCT GAIN		0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE		2	0	0	0	0	0	0	0	0	0
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TOTAL HT LOSS BTU/H		5928	1581	112	1345	3570	875	2089	1227	1932	1084
TOTAL HT GAIN x 1.3 BTU/H		6720	861	52	2033	2545	3985	506	195	2205	187

TOTAL HEAT GAIN BTU/H: 47394 TONS: 3.95 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 77512 TOTAL COMBINED HEAT LOSS BTU/H: 80693

*Michael O'Rourke*

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

THE SILVERWOOD - WOB

DATE: Oct-18

GFA: 3453 IO# 80243

HEATING CFM	1525	COOLING CFM	1525
TOTAL HEAT LOSS	77,512	TOTAL HEAT GAIN	46,859
AIR FLOW RATE CFM	19.67	AIR FLOW RATE CFM	32.54

0.6	0.05	0.2
furnace pressure	furnace filter	a/c coil pressure
		available pressure

EL296UH090XE48C ^LENNOX 90

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

S/A	0	0	6
R/A	0	0	3

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

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.03	r/a grille press. loss	0.02
min adjusted pressure s/a	0.15	adjusted pressure s/a	0.15

$$\text{DESIGN CFM} = \frac{1525}{\text{CFM @ } .6" \text{ ESP}}$$

TEMPERATURE RISE 52 °F

	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	BED-4	BATH	WIC-2	MEDIA	MBR	ENS-2	ENS	BED-4	K/BIF	K/BIF	DIN	LIB	PWD	FOY	MUD	BAS	BAS	BAS	BAS	
RM LOSS MBH.	2.91	0.79	0.11	1.34	3.57	2.96	2.09	1.23	1.93	2.91	1.08	0.79	2.96	2.68	2.68	2.32	2.65	0.41	3.29	1.31	4.52	4.52	4.52	4.52	
CFM PER RUN MBH.	57	16	2	26	70	58	41	24	38	57	21	16	58	53	53	46	52	8	65	26	89	89	89	89	
RM GAIN MBH.	3.36	0.43	0.05	2.03	2.35	1.99	0.51	0.20	2.20	3.36	0.19	0.43	1.99	2.66	2.66	1.60	2.69	0.07	0.65	0.23	1.27	1.27	1.27	1.27	
CFM PER RUN COOLING	109	14	2	66	76	65	16	6	72	109	6	14	65	87	87	52	88	2	21	7	41	41	41	41	
ADJUSTED PRESSURE	0.15	0.17	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	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16	
ACTUAL DUCT LGH.	52	30	33	14	43	49	23	50	45	42	6	21	56	63	46	55	76	20	55	11	37	55	43	29	
EQUIVALENT LENGTH	150	130	190	180	210	160	170	150	160	150	160	140	180	140	150	220	200	180	160	130	170	130	100	110	
TOTAL EFFECTIVE LENGTH	202	160	223	194	253	209	193	200	205	192	166	161	236	203	196	275	276	200	215	141	207	185	143	139	
ADJUSTED PRESSURE	0.08	0.11	0.08	0.09	0.07	0.08	0.09	0.09	0.08	0.08	0.1	0.11	0.07	0.08	0.08	0.06	0.06	0.09	0.08	0.12	0.08	0.09	0.11	0.12	
ROUND DUCT SIZE	6	4	4	5	6	5	4	4	5	6	4	4	5	6	6	5	6	4	5	4	6	6	5	5	
HEATING VELOCITY (ft/min)	291	184	23	191	357	426	470	275	291	291	241	184	426	270	270	338	265	92	477	298	454	454	653	653	
COOLING VELOCITY (ft/min)	556	161	23	485	388	477	184	69	529	556	69	161	477	444	444	382	449	23	154	80	209	209	301	301	
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	
TRUNK	B	C	B	C	B	E	C	E	E	C	C	C	E	A	B	D	D	E	D	D	B	A	C	C	

RUN #	25	26	27	28	29	30
ROOM NAME	BAS	BAS	K/B/F	K/B/F	LIB	DIN
RM LOSS MBH.	4.52	4.52	2.68	2.68	2.65	2.32
CFM PER RUN HEAT	89	89	53	53	52	46
RM GAIN MBH.	1.27	1.27	2.66	2.66	2.69	1.60
CFM PER RUN COOLING	41	41	87	87	88	52
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.16	0.17
ACTUAL DUCT LGH.	29	65	53	17	70	60
EQUIVALENT LENGTH	140	170	150	150	160	160
TOTAL EFFECTIVE LENGTH	169	235	203	167	230	220
ADJUSTED PRESSURE	0.1	0.07	0.08	0.1	0.07	0.08
ROUND DUCT SIZE	5	6	6	5	6	5
HEATING VELOCITY (ft/min)	653	454	270	389	265	338
COOLING VELOCITY (ft/min)	301	209	444	639	449	382
OUTLET GRILL SIZE	3X10	4X10	4X10	3X10	4X10	3X10
TRUNK	A	D	A	B	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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.08	8.8	10	8	511				8	0	0.05			
TRUNK B	0.07	12	16	8	684	TRUNK G	0	0	X	0	0.05	0	0	X
TRUNK C	0.07	14.3	24	8	722	TRUNK H	0	0	X	0	0.05	0	0	X
TRUNK D	0.06	10.4	12	X	564	TRUNK I	0	0	X	0	0.05	0	0	X
TRUNK E	0.06	12.1	18	X	562	TRUNK J	0	0	X	0	0.05	0	0	X
TRUNK F	0.00	0	0	X	0	TRUNK K	0	0	X	0	0.05	0	0	X

[illegible]

TYPE: 5006 CNR  
SITE NAME: PINE VALLEY & TESTON

LO # 80243  
THE SILVERWOOD - 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:	VANEE 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:	VANEE 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#: 80243	Model: 5006 CNR																																														
Builder: GOLD PARK HOMES																																															
Date: 10/5/2018																																															
Air Change & Delta T Data																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">House Volume</th> </tr> <tr> <th>Level</th> <th>Floor Area (ft²)</th> </tr> <tr> <td>Bsmt</td> <td>2351</td> </tr> <tr> <td>First</td> <td>2351</td> </tr> <tr> <td>Second</td> <td>1499</td> </tr> <tr> <td>Third</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> </tr> <tr> <td>Total:</td> <td>62,862.0 ft³</td> </tr> <tr> <td>Total:</td> <td>1780.1 m³</td> </tr> </table>	House Volume		Level	Floor Area (ft²)	Bsmt	2351	First	2351	Second	1499	Third	0	Fourth	0	Total:	62,862.0 ft³	Total:	1780.1 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">WINTER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td>0.383</td> </tr> <tr> <th colspan="2">SUMMER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td>0.115</td> </tr> </table> <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>	WINTER NATURAL AIR CHANGE RATE			0.383	SUMMER NATURAL AIR CHANGE RATE			0.115	Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7				13
House Volume																																															
Level	Floor Area (ft²)																																														
Bsmt	2351																																														
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6.2.6 Sensible Gain due to Air Leakage																																															
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																															
0.383 x 494.46 x 1.2 = 9587 W	484 W																																														
= 0.115 x 494.46 x 7 °C x 1.2 = 1652 Btu/h																																															
6.2.7 Sensible heat Gain due to Ventilation																																															
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																															
155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h	536 Btu/h																																														
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																															
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{aglevel} + HL_{bglevel})\}$																																															
<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> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">32,711</td> </tr> <tr> <td>2</td> <td>0.3</td> </tr> <tr> <td>3</td> <td>0.2</td> </tr> <tr> <td>4</td> <td>0</td> </tr> <tr> <td>5</td> <td>0</td> </tr> </table>	Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	1	0.5	32,711	2	0.3	3	0.2	4	0	5	0	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF) x HLairbv / HLlevel</th> </tr> <tr> <td>1</td> <td>1.630</td> </tr> <tr> <td>2</td> <td>0.380</td> </tr> <tr> <td>3</td> <td>0.890</td> </tr> <tr> <td>4</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0.000</td> </tr> </table>	Level	Level Factor (LF) x HLairbv / HLlevel	1	1.630	2	0.380	3	0.890	4	0.000	5	0.000																				
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairv = 0																																															

**HEAT LOSS AND GAIN SUMMARY SHEET**

<b>MODEL:</b> 5006 CNR	<b>THE SILVERWOOD - WOB</b>	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 3453	<b>LO#</b> 80243	<b>SITE:</b> PINE VALLEY & TESTON

**DESIGN ASSUMPTIONS**

<b>HEATING</b>	<b>°F</b>	<b>COOLING</b>	<b>°F</b>
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

**BUILDING DATA**

<b>ATTACHMENT:</b>	DETACHED	<b># OF STORIES (+BASEMENT):</b>	3
<b>FRONT FACES:</b>	EAST	<b>ASSUMED (Y/N):</b>	Y
<b>AIR CHANGES PER HOUR:</b>	3.57	<b>ASSUMED (Y/N):</b>	Y
<b>AIR TIGHTNESS CATEGORY:</b>	AVERAGE	<b>ASSUMED (Y/N):</b>	Y
<b>WIND EXPOSURE:</b>	UNSHelterED	<b>ASSUMED (Y/N):</b>	Y
<b>HOUSE VOLUME (ft³):</b>	62862.0	<b>ASSUMED (Y/N):</b>	Y
<b>INTERNAL SHADING:</b>	BLINDS/CURTAINS	<b>ASSUMED OCCUPANTS:</b>	5
<b>INTERIOR LIGHTING LOAD (Btu/h/ft²):</b>	1.27	<b>DC BRUSHLESS MOTOR (Y/N):</b>	Y
<b>FOUNDATION CONFIGURATION</b>	BCIN_1	<b>DEPTH BELOW GRADE:</b>	8.0 ft
<b>LENGTH:</b> 76.0 ft	<b>WIDTH:</b> 42.0 ft	<b>EXPOSED PERIMETER:</b>	184.0 ft
<b>WOB INSULATION CONFIGURATION</b>	SCB_9	<b>WOB EXPOSED PERIMETER</b>	52.0 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	-

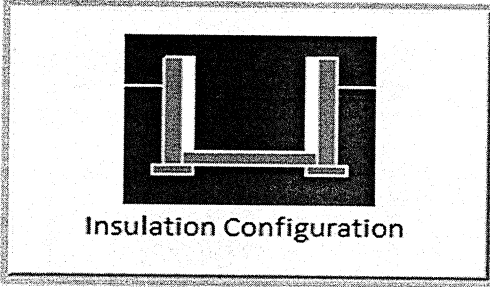
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

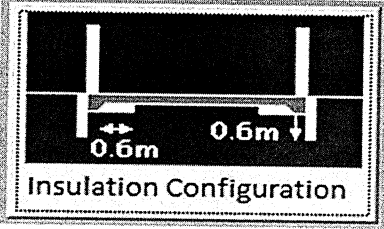
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	56.1	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.10	
Window Area (m <sup>2</sup> ):	0.8	
Door Area (m <sup>2</sup> ):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	<b>774</b>	

TYPE: 5006 CNR  
LO# 80243

THE SILVERWOOD - 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	
Width (m):	12.8	
Exposed Perimeter (m):	15.8	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		<b>217</b>

TYPE: 5006 CNR  
LO# 80243

THE SILVERWOOD - 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:	Very heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m <sup>3</sup> ):	1780.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2372.9 cm <sup>2</sup>		
	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):	0.383			
Cooling Air Leakage Rate (ACH/H):	0.115			

TYPE: 5006 CNR  
LO# 80243

THE SILVERWOOD - WOB

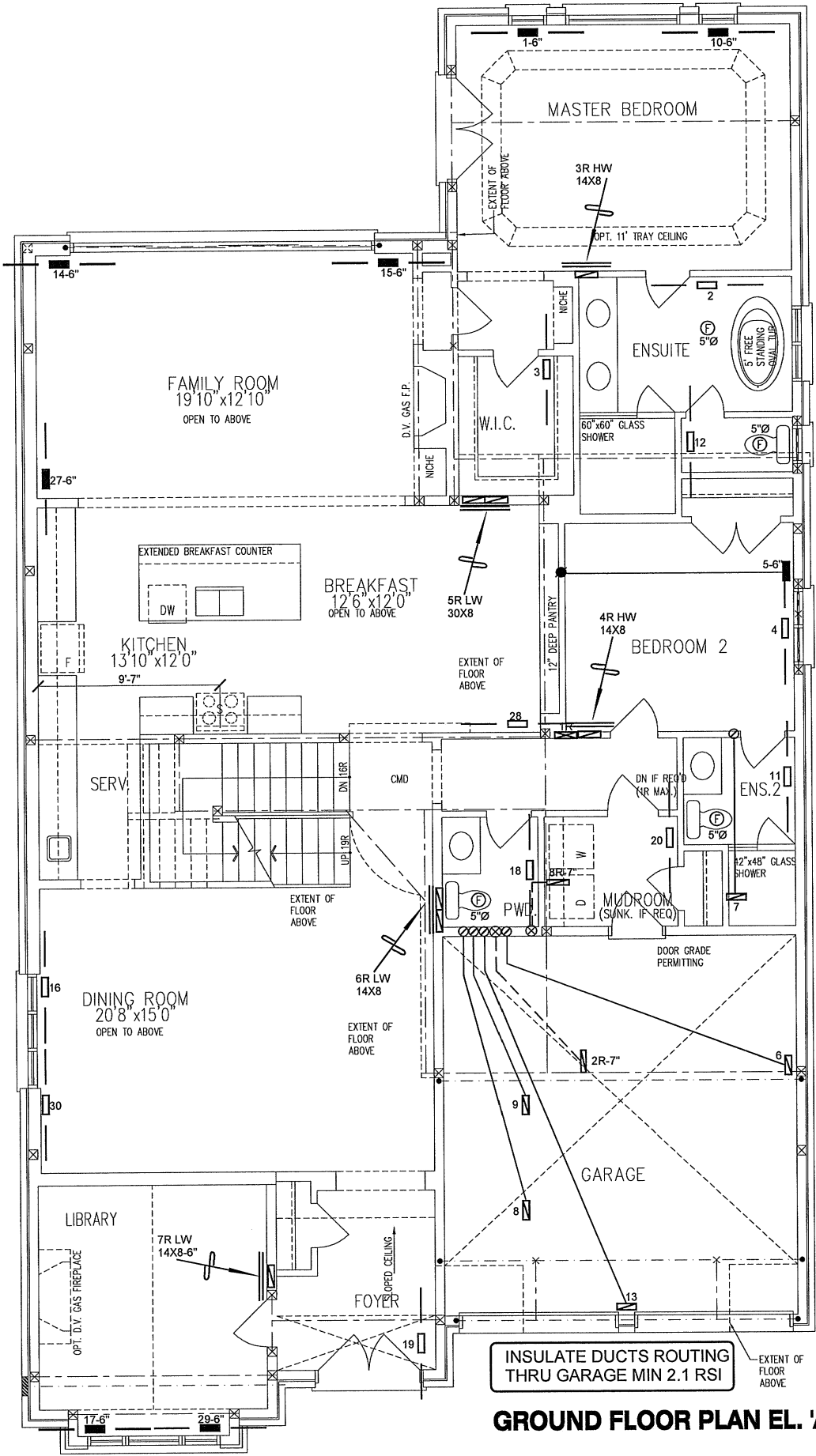


HVAC LEGEND			3.
SYMBOL	DESCRIPTION	SYMBOL	2.
	SUPPLY AIR GRILLE		1.
	SUPPLY AIR GRILLE 6" BOOT		No.
	SUPPLY AIR BOOT ABOVE		REVISIONS
			Date

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



GROUND FLOOR PLAN EL. 'A'

CSA-F280-12

WOB

PACKAGE A1

Client	GOLD PARK HOMES
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO
	THE SILVERWOOD - WOB 5006 CNR 3453 sqft

**HVACDESIGNS LTD.**

375 Finley Ave. Suite 202 - Ajax, Ontario  
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375  
Email: info@hvacdsgns.ca  
Web: www.hvacdsgns.ca  
Specializing in Residential Mechanical Design Services

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.

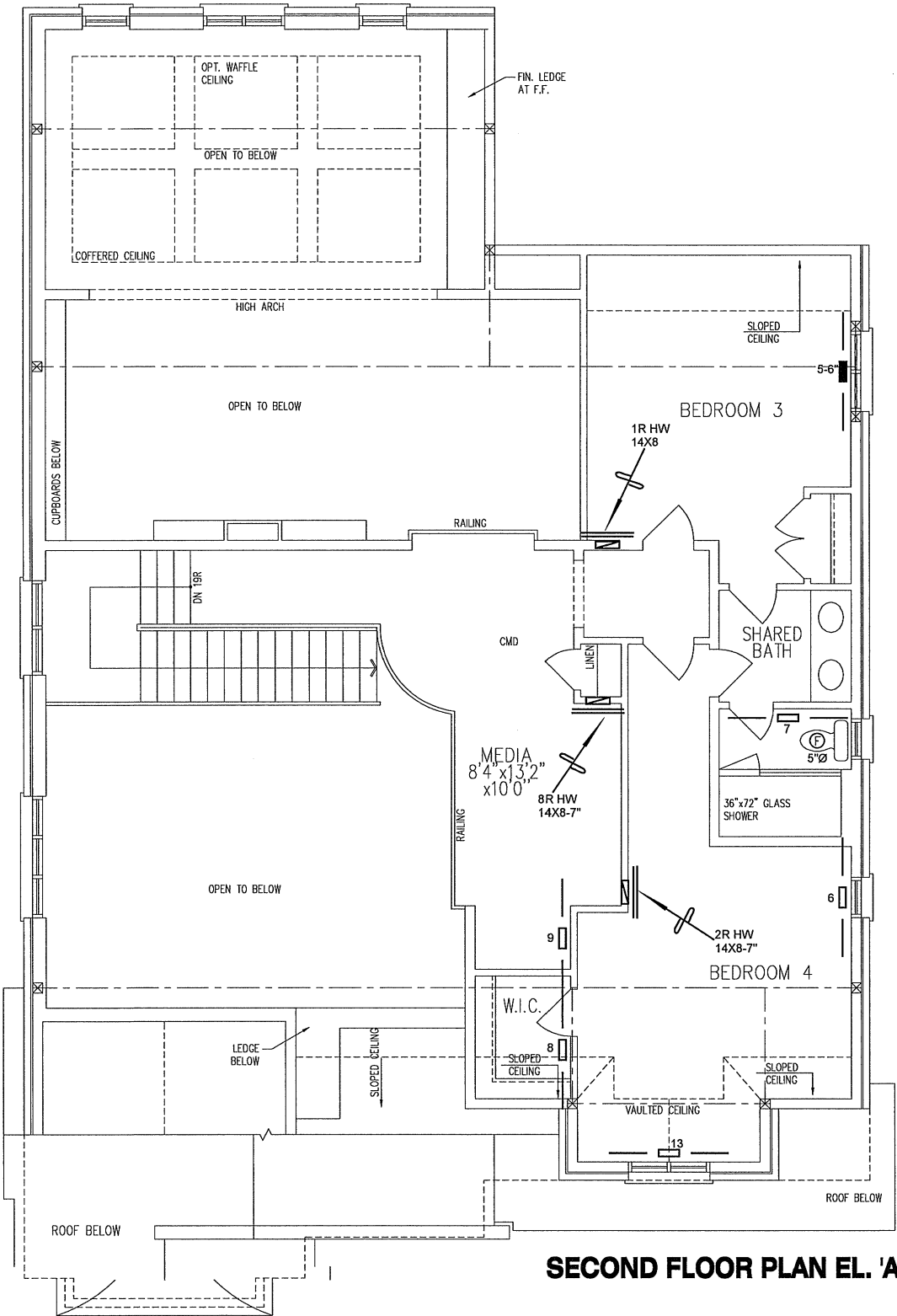
Sheet Title	
FIRST FLOOR HEATING LAYOUT	
Date	OCT/2018
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	80243

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FIRST FLOOR HEATING LAYOUT	
Date	OCT/2018
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	80243

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

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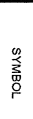







SECOND FLOOR PLAN EL. 'A'

CSA-F280-12

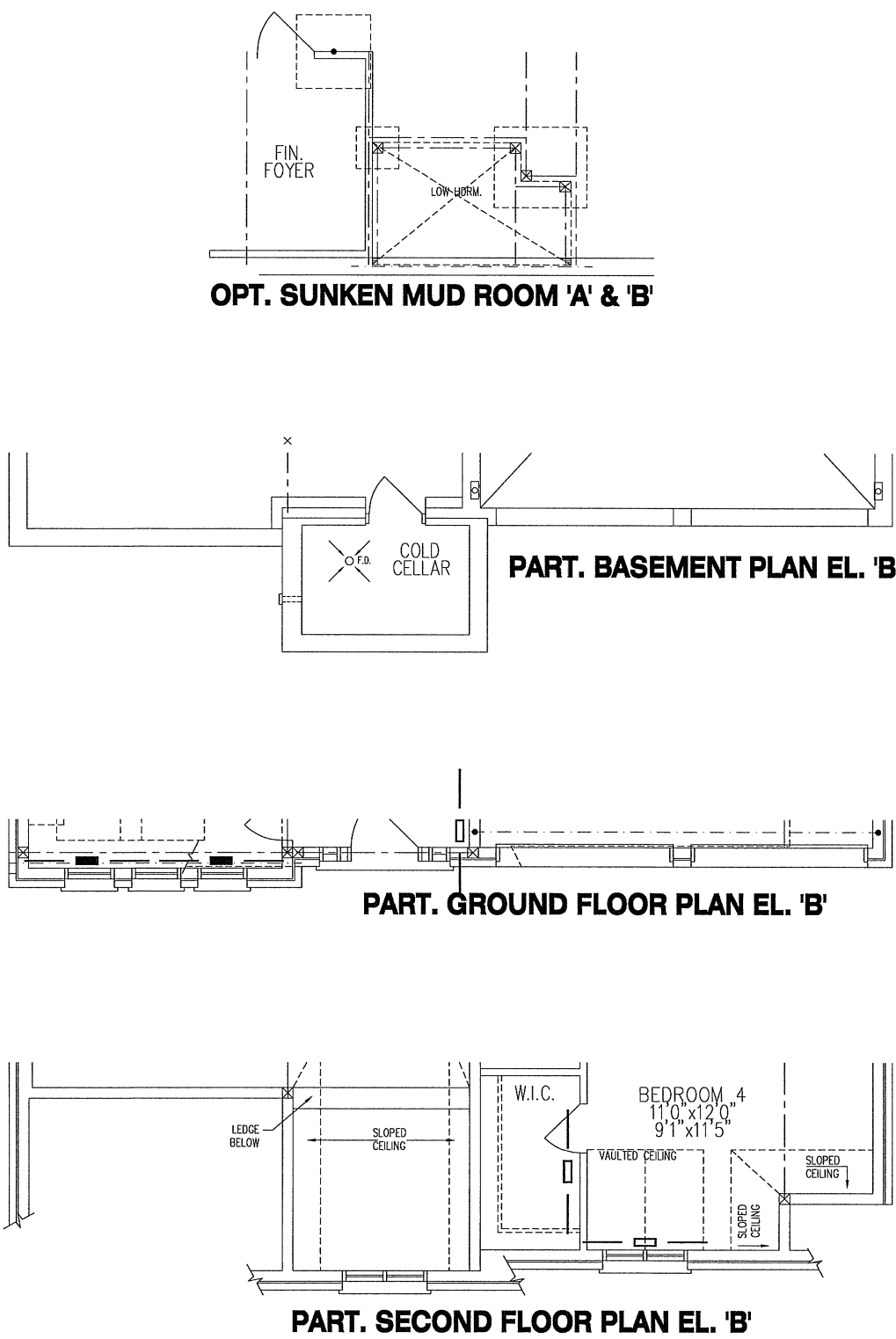
WOB

PACKAGE A1

Client		<div><b>HVAC</b>DESIGNS 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>	Sheet Title	
GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
THE SILVERWOOD - WOB 5006 CNR 3453 sqft			LO#	80243

HVAC LEGEND						3	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	1.	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		
					REDUCER		
						REVISIONS	
						Description	Date

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

Client	GOLD PARK HOMES
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO
	THE SILVERWOOD - WOB 5006 CNR 3453 sqft

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Sheet Title		CSA-F280-12
PARTIAL PLANS HEATING LAYOUT		PACKAGE A1
Date	OCT/2018	
Scale	3/16" = 1'-0"	
BCIN# 19669		
LO#	80243	