

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@hvacdsgns.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]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 4204 THE BROOKVALLEY CNR Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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: _____			
☒ 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>			
☐ 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 CNR DATE: Oct-18 WINTER NATURAL AIR CHANGE RATE 0.340 HEAT LOSS AT °F 76 CSA-F280-12
BUILDER: GOLD PARK HOMES TYPE: 4204 THE BROOKVALEY LO# 77469 SUMMER NATURAL AIR CHANGE RATE 0.114 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	COMMON				BTH-2			
		37	36	7	32	44	28	6								
		9	9	9	9	9	9	9								
FACTORS																
GRS.WALL AREA	LOSS	333	324	63	288	396	262	48					0			
GLAZING	GAIN	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS					LOSS			
NORTH	21.3	0	0	0	0	0	0	0					GAIN			
EAST	21.3	0	0	0	0	0	0	0					0			
SOUTH	21.3	0	0	0	45	958	1821	0					0			
WEST	21.3	0	45	958	1093	45	958	1093					0			
SKYL.T.	37.2	45	958	1821	33	702	1335	0					0			
DOORS	37.2	0	0	0	0	0	0	0					0			
NET EXPOSED WALL	4.6	0	0	0	0	0	0	0					0			
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0					0			
EXPOSED CLG	1.3	337	432	198	360	448	206	63					180			
NO ATTIC EXPOSED CLG	2.7	0	0	0	0	0	0	0					205			
EXPOSED FLOOR	2.6	0	0	0	0	0	0	0					94			
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		2675	3207	362	2968	3702	2387	676					205			
SUB TOTAL HT GAIN		2236	2819	84	2258	3337	1480	512					94			
LEVEL FACTOR / MULTIPLIER	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30					0.20			
AIR CHANGE HEAT LOSS		794	961	107	880	1098	708	200					61			
AIR CHANGE HEAT GAIN		161	202	6	162	240	106	37					7			
DUCT LOSS		0	0	0	385	0	0	88					0			
DUCT GAIN		0	0	0	334	0	0	55					0			
HEAT GAIN PEOPLE	240	480	0	0	1	240	1	0					0			
HEAT GAIN APPLIANCES/LIGHTS		685	0	0	685	685	685	0					0			
TOTAL HT LOSS BTU/H		3469	4158	469	4233	4801	3096	964					265			
TOTAL HT GAIN x 1.3 BTU/H		4629	3928	118	4783	5692	3265	785					424			

ROOM USE	EXP. WALL CLG. HT.	DIN	KT/ST	LIB	LAUN	PWD	FOY	MUD	LOD	BAS
GRS.WALL AREA	286	286	286	286	286	286	286	286	286	286
GLAZING	0	0	0	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	244	1089	183	244	1089	183	244	1089
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	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	1983	1983	1983	1983	1983	1983	1983	1983	1983	1983
SUB TOTAL HT GAIN	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30
LEVEL FACTOR / MULTIPLIER	759	759	759	759	759	759	759	759	759	759
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0
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	240	240	240	240	240	240	240	240	240	240
HEAT GAIN APPLIANCES/LIGHTS	685	685	685	685	685	685	685	685	685	685
TOTAL HT LOSS BTU/H	2741	2741	2741	2741	2741	2741	2741	2741	2741	2741
TOTAL HT GAIN x 1.3 BTU/H										

TOTAL HEAT GAIN BTU/H: 4925 TONS: 4.10 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 71085 TOTAL COMBINED HEAT LOSS BTU/H: 74276

Michael O'Rourke

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

CNR

TYPE: 4204 THE BROOKVALLEY

GFA: 3646 LO# 77469

DATE: Oct-18

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 71,095 TOTAL HEAT GAIN 48,679
AIR FLOW RATE CFM 21.45 AIR FLOW RATE CFM 31.33AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
DESIGN CFM = 1525
CFM @ .6" W.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	15	10	5
R/A	0	0	5	3	1

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

All S/A runs 5'Ø unless noted otherwise on layout.

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	ENS	BED-2	BED-3	BED-4	ENS-2/3	BED-2	BED-3	MBR	BTH-2	DIN	KT/GT	KT/GT	KT/GT	LIB	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.73	3.08	1.08	2.12	2.40	1.55	0.48	2.12	2.40	1.73	0.27	2.74	2.35	2.35	2.35	2.63	0.73	1.09	5.88	2.48	4.41	4.41	4.41	4.41
CFM PER RUN HEAT	37	66	23	45	51	33	10	45	51	37	6	59	50	50	50	56	16	23	126	53	95	95	95	95
RM GAIN MBH	2.31	2.96	0.96	2.39	2.93	1.63	0.39	2.39	2.93	2.31	0.13	2.57	2.34	2.34	2.34	2.47	1.18	0.18	2.75	1.31	0.58	0.58	0.58	0.58
CFM PER RUN COOLING	73	93	30	75	92	51	12	75	92	73	4	80	73	73	73	77	37	6	86	41	18	18	18	18
ADJUSTED PRESSURE	0.17	0.16	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	0.15	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	51	47	36	52	74	45	50	56	63	43	35	26	26	26	43	53	50	34	36	10	41	21	16	52
EQUIVALENT LENGTH	180	200	120	150	200	160	140	160	190	160	150	100	110	110	150	110	170	100	150	140	130	100	100	100
TOTAL EFFECTIVE LENGTH	211	247	156	202	274	205	190	216	253	203	185	126	136	136	193	163	220	134	186	150	171	121	116	152
ADJUSTED PRESSURE	0.08	0.07	0.11	0.09	0.06	0.08	0.09	0.08	0.06	0.08	0.09	0.14	0.13	0.13	0.09	0.11	0.08	0.13	0.08	0.11	0.09	0.13	0.14	0.11
ROUND DUCT SIZE	5	6	4	5	6	5	4	5	6	5	4	5	5	5	5	5	4	4	6	4	6	5	5	5
HEATING VELOCITY (ft/min)	272	337	264	330	260	242	115	330	260	272	69	433	367	367	367	367	411	184	264	608	484	698	698	698
COOLING VELOCITY (ft/min)	536	474	344	551	489	374	138	551	469	536	46	587	536	536	536	565	424	69	438	470	92	132	132	132
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10
TRUNK	E	A	D	C	B	A	C	C	B	E	D	A	E	E	A	B	C	C	C	E	A	E	D	B

TEMPERATURE RISE 52 °F

RUN #	25	26	27	28	29	30
ROOM NAME	BED-4	LIB	KT/GT	ENS-2/3	WIC	BAS
RM LOSS MBH	1.55	2.63	2.35	0.48	0.47	4.41
CFM PER RUN HEAT	33	56	50	10	10	95
RM GAIN MBH	1.63	2.47	2.34	0.39	0.12	0.58
CFM PER RUN COOLING	51	77	73	12	4	18
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH	50	52	37	45	22	30
EQUIVALENT LENGTH	150	140	150	160	160	120
TOTAL EFFECTIVE LENGTH	200	192	187	205	182	150
ADJUSTED PRESSURE	0.09	0.09	0.09	0.08	0.09	0.11
ROUND DUCT SIZE	4	5	5	4	4	5
HEATING VELOCITY (ft/min)	379	411	367	115	115	698
COOLING VELOCITY (ft/min)	585	585	536	138	46	132
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	A	C	E	D

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY					
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)					
TRUNK A	386	0.07	10.2	12	8	0.00	0	0	8	TRUNK O	0	0.05	0	8					
TRUNK B	309	0.06	9.7	12	8	0.00	0	0	8	TRUNK P	0	0.05	0	8					
TRUNK C	584	0.06	12.3	18	8	0.00	0	0	8	TRUNK Q	0	0.05	0	8					
TRUNK D	1239	0.06	16.3	30	8	0.00	0	0	8	TRUNK R	0	0.05	0	8					
TRUNK E	282	0.08	8.7	10	8	0.00	0	0	8	TRUNK S	0	0.05	0	8					
TRUNK F	0	0.00	0	0	0	0.00	0	0	0	TRUNK T	0	0.05	0	8					
										TRUNK U	0	0.05	0	8					
										TRUNK V	0	0.05	0	8					
										TRUNK W	0	0.05	0	8					
RETURN AIR #	1	2	3	4	5	6	7	8	BR	TRUNK X	1230	0.05	17	26					
AIR VOLUME	130	125	125	125	135	360	165	130	0	TRUNK Y	515	0.05	12.3	18					
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	TRUNK Z	1000	0.05	15.8	28					
ACTUAL DUCT LGH.	35	59	61	54	47	26	26	60	1	DROP	1525	0.05	18.5	24					
EQUIVALENT LENGTH	185	175	195	185	285	205	130	155	1										
TOTAL EFFECTIVE LH	220	234	256	239	312	231	156	215	1										
ADJUSTED PRESSURE	0.07	0.06	0.06	0.06	0.05	0.06	0.09	0.07	14.80										
ROUND DUCT SIZE	6.8	6.9	6.9	6.9	7.5	10.3	6.9	6.8	14.80										
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0										
	X	X	X	X	X	X	X	X	0										
INLET GRILL SIZE	14	14	14	14	14	30	14	14	0										

Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: 4204 THE BROOKVALLEY
SITE NAME: PINE VALLEY & TESTON

LO # 77469
CNR

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) ☒	Direct vent (sealed combustion) only	
b) ☐	Positive venting induced draft (except fireplaces)	
c) ☐	Natural draft, B-vent or induced draft gas fireplace	
d) ☐	Solid Fuel (including fireplaces)	
e) ☐	No Combustion Appliances	

HEATING SYSTEM	
☒	Forced Air
☐	Non Forced Air
☐	Electric Space Heat

HOUSE TYPE		9.32.1(2)
☒	I Type a) or b) appliance only, no solid fuel	
☐	II Type I except with solid fuel (including fireplaces)	
☐	III Any Type c) appliance	
☐	IV Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐	1 Exhaust only/Forced Air System	
☐	2 HRV with Ducting/Forced Air System	
☒	3 HRV Simplified/connected to forced air system	
☐	4 HRV with Ducting/non forced air system	
☐	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
☒	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	✓
ENS-2/3	QTXEN050C	50	✓
BTH-2	QTXEN050C	50	✓
PWD	QTXEN050C	50	✓

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	☒	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#: 77469	Model: 4204 THE BROOKVALLEY	Builder: GOLD PARK HOMES	Date: 10/5/2018																																																																								
Volume Calculation		Air Change & Delta T Data																																																																									
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House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																																								
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6.2.6 Sensible Gain due to Air Leakage																																																																											
$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																											
0.340	x	421.26	x																																																																								
		7 °C	x																																																																								
		1.2	=																																																																								
			411 W																																																																								
			=																																																																								
			1402 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	13 °F	x																																																																								
		1.08	x																																																																								
		0.25	=																																																																								
			536 Btu/h																																																																								
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																											
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<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>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">24,764</td> <td>9,683</td> <td>1.279</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>19,413</td> <td>0.383</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,696</td> <td>0.297</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>				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	24,764	9,683	1.279	2	0.3	19,413	0.383	3	0.2	16,696	0.297	4	0	0	0.000	5	0	0	0.000																																														
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																																											

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4204 THE BROOKVALLEY	CNR	BUILDER: GOLD PARK HOMES
SFQT: 3646	LO# 77469	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):	53556.0	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: 62.0 ft	WIDTH: 35.0 ft	EXPOSED PERIMETER:	194.0 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	-

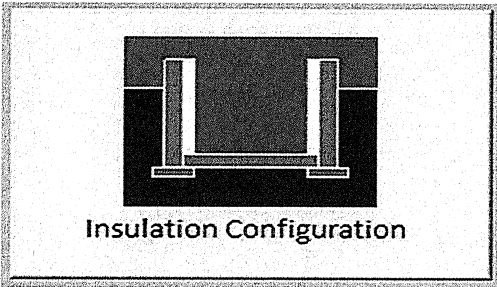
INDIVIDUAL BCIN: 19669

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):	18.9	 Insulation Configuration
Floor Width (m):	10.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	2.5	
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):		1932

TYPE: 4204 THE BROOKVALLEY
LO# 77469

CNR

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1516.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2021.6 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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.114			

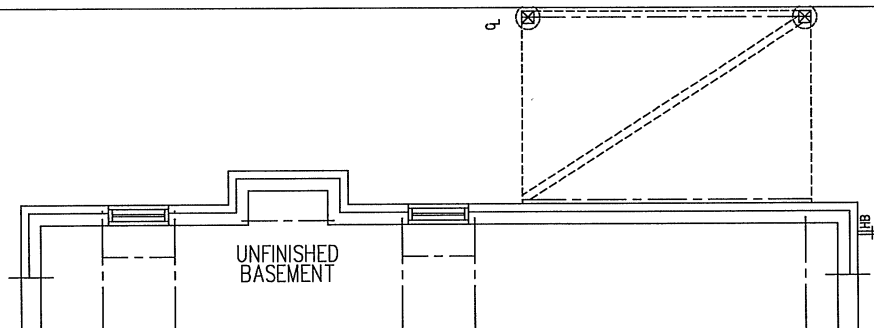
TYPE: 4204 THE BROOKVALLEY
LO# 77469

CNR

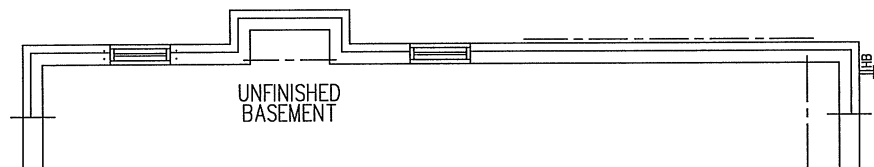
LOD

WOD

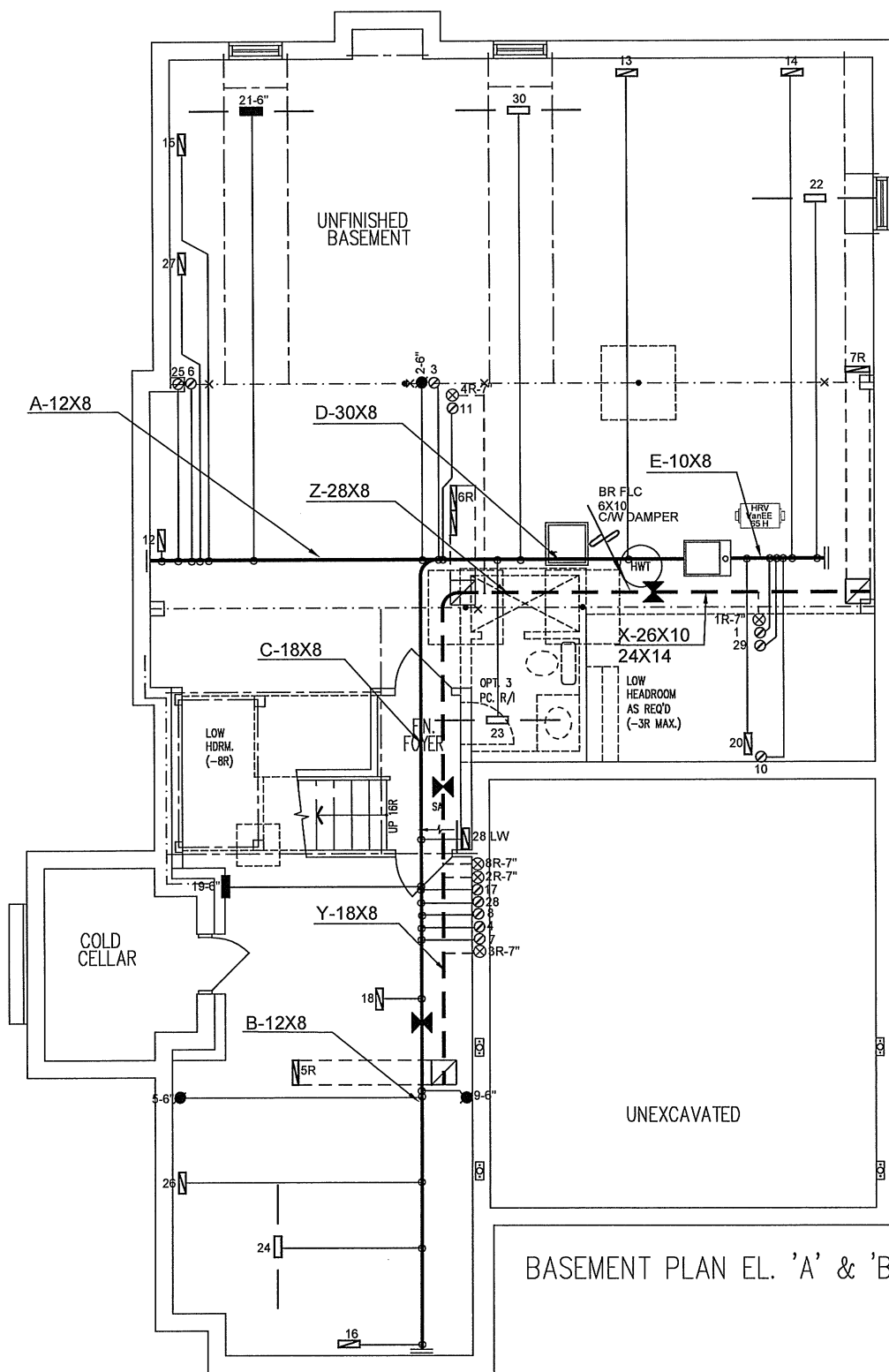
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.



PART. BASEMENT PLAN ELEV. 'A' - W.O.D. COND.
ELEV. 'B' SIMILAR



PART. BASEMENT PLAN ELEV. 'A' - L.O.D. COND.



BASEMENT PLAN EL. 'A' & 'B'

HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6\" SUPPLY AIR BOOT ABOVE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED OCT/2018
	SUPPLY AIR GRILLE 6\" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		RETURN AIR STACK 2nd FLOOR	No.	Date
	SUPPLY AIR BOOT ABOVE		6\" SUPPLY AIR STACK 2nd FLOOR		REDUCER	REVISIONS	

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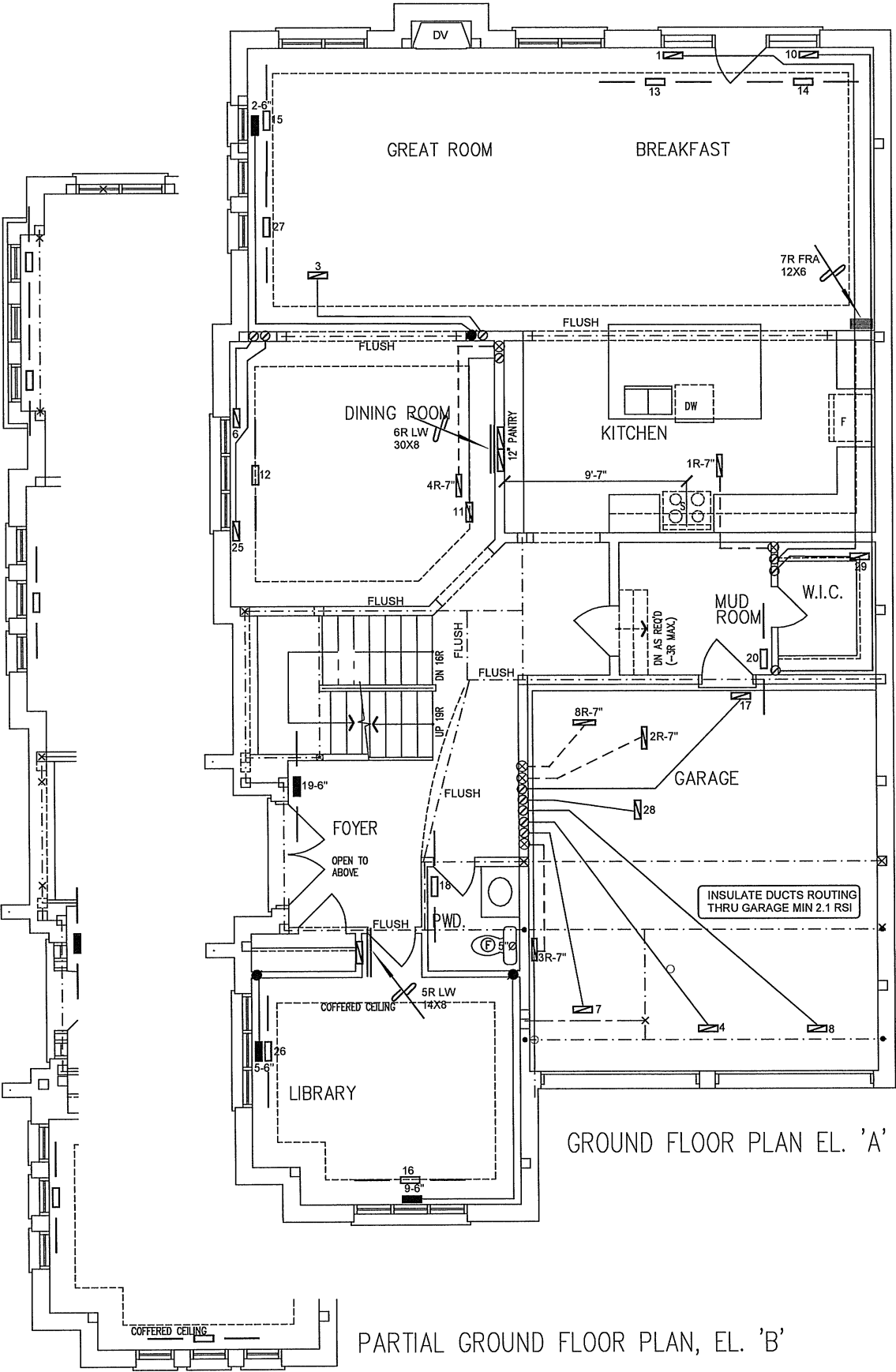
Client	 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 74276 BTU/H	# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES		UNIT DATA	3RD FLOOR				BASEMENT HEATING LAYOUT
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO		MAKE LENNOX	2ND FLOOR	15	5	5	
		MODEL EL296UH090XE48C	1ST FLOOR	10	3	2	
		INPUT 88 MBTU/H	BASEMENT	5	1	0	
THE BROOKVALLEY 4204 CNR 3646 sqft	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.	OUTPUT 85 MBTU/H	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	JAN/2018
		COOLING 4.0 TONS				Scale	1/8" = 1'-0"
		FAN SPEED 1525 cfm @ 0.6" w.c.				BCIN# 19669	
		LO# 77469					

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.			
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30x8" 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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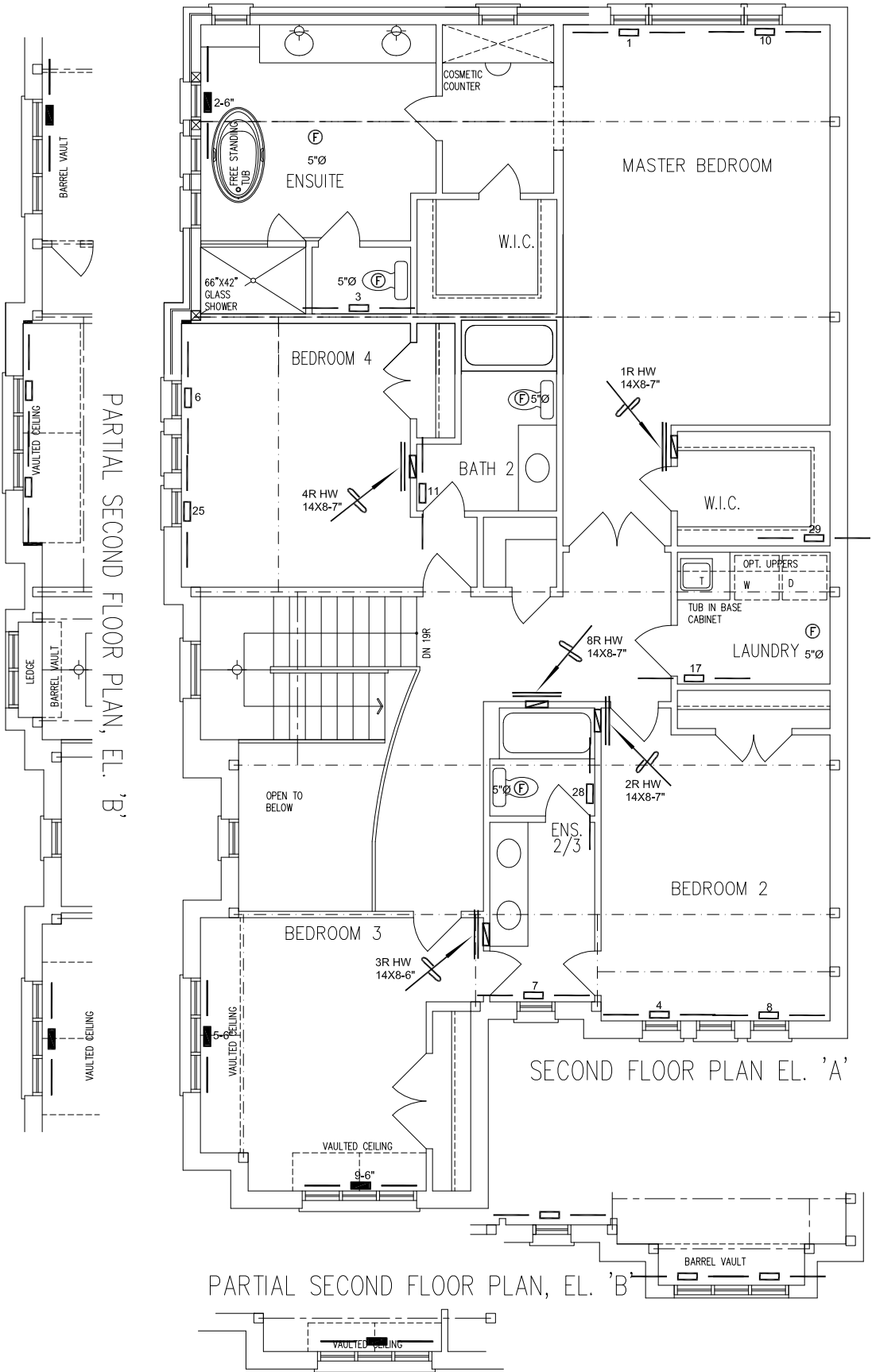
Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply 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	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE BROOKVALLEY 4204 CNR 3646 sqft			BCIN# 19669	
			LO#	77469

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Michael O'Rourke

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

HVAC LEGEND		
SYMBOL	DESCRIPTION	SYMBOL
	SUPPLY AIR GRILLE	
	SUPPLY AIR GRILLE 6" BOOT	
	SUPPLY AIR BOOT ABOVE	
HVAC LEGEND		
SYMBOL	DESCRIPTION	SYMBOL
	14"x8" RETURN AIR GRILLE	
	FRA-FLOOR RETURN AIR GRILLE	
	RETURN AIR STACK ABOVE	
REVISIONS		
No.	Description	Date
1.	DECK CONDITIONS ADDED	OCT/2018



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Client	GOLD PARK HOMES
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO
	THE BROOKVALLEY 4204 CNR 3646 sqft

HVAC

DESIGNS 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.hvacdesigns.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	SECOND FLOOR HEATING LAYOUT
Date	JAN/2018
Scale	1/8" = 1'-0"
	BCIN# 19669
LO#	77469