


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]				
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> 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: 4202- ROSEDALE OPT. 5 BED Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)				
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____				
<input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____				
I certify that:				
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.				
September 10, 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										DATE: Sep-18 LO# 77466		WINTER NATURAL AIR CHANGE RATE 0.340 SUMMER NATURAL AIR CHANGE RATE 0.124		HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 16		CSA-P280-12 SB-12 PACKAGE A1	
TYPE: 4202-ROSEDALE OPT. 5 BED										GFA: 3785		ENS-2		ENS-3		ENS-4/6	
ROOM USE EXP. WALL CLG. HT.	MBR 34 10	ENS 37 9	BED-2 12 9	BED-3 36 9	BED-4 16 9	LAUN 32 9	KT/IGT 110 11	DIN 17 11	GRS.WALL AREA GLAZING	FACTORS	LOSS	GAIN	FOY 59 11	MUD 16 12	WIC 6 9	LOD 43 10	BAS 202 10
GRS.WALL AREA	340	333	108	324	144	288	1100	187	21.3	16.8	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	10	0	21.3	16.8	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	29	0	21.3	16.8	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	123	0	21.3	16.8	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	21.3	16.8	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	37.2	103.0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	25.2	5.2	0	0	0	0	0	0	0
NET EXPOSED WALL	286	316	1406	282	106	473	98	0	4.6	0.9	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	0	0	0	0	0	3.6	0.7	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	285	366	182	210	270	134	2.7	1.4	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	0	0	0	0	0	0	0	0	2.6	0.5	0	0	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2791	2058	1445	3411	1590	2826	1189	2736	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEVEL FACTOR / MULTIPLIER	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
AIR CHANGE HEAT LOSS	841	620	436	1028	479	1028	139	422	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	2	480	0	240	1	240	831	831	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3632	2679	2068	4892	2069	4892	11744	3632	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
TOTAL HT GAIN x 1.3 BTU/H	5685	1721	2600	6030	3172	4346	11273	5685	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20

TYPE: 4202-ROSEDALE OPT. 5 BED										GFA: 3785		ENS-2		ENS-3		ENS-4/6	
ROOM USE EXP. WALL CLG. HT.	MBR 34 10	ENS 37 9	BED-2 12 9	BED-3 36 9	BED-4 16 9	LAUN 32 9	KT/IGT 110 11	DIN 17 11	GRS.WALL AREA GLAZING	FACTORS	LOSS	GAIN	FOY 59 11	MUD 16 12	WIC 6 9	LOD 43 10	BAS 202 10
GRS.WALL AREA	340	333	108	324	144	288	1100	187	21.3	16.8	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	10	0	21.3	16.8	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	29	0	21.3	16.8	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	123	0	21.3	16.8	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	21.3	16.8	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	37.2	103.0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	25.2	5.2	0	0	0	0	0	0	0
NET EXPOSED WALL	286	316	1406	282	106	473	98	0	4.6	0.9	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	0	0	0	0	0	3.6	0.7	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	285	366	182	210	270	134	2.7	1.4	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	0	0	0	0	0	0	0	0	2.6	0.5	0	0	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2791	2058	1445	3411	1590	2826	1189	2736	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEVEL FACTOR / MULTIPLIER	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
AIR CHANGE HEAT LOSS	841	620	436	1028	479	1028	139	422	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	2	480	0	240	1	240	831	831	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3632	2679	2068	4892	2069	4892	11744	3632	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
TOTAL HT GAIN x 1.3 BTU/H	5685	1721	2600	6030	3172	4346	11273	5685	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20

TOTAL HEAT GAIN BTU/H: 47307 TONS: 3.94
LOSS DUE TO VENTILATION LOAD BTU/H: 3181
STRUCTURAL HEAT LOSS: 68629
TOTAL COMBINED HEAT LOSS BTU/H: 71709

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESOPT. 5 BED
TYPE: 4202-ROSEDALE

DATE: Sep-18

GFA: 3785 LO# 77466

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 68,529 TOTAL HEAT GAIN 46,646
AIR FLOW RATE CFM 22.25 AIR FLOW RATE CFM 32.69furnace pressure 0.6
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35plenum pressure s/a 0.18
max s/a diff press. loss 0.02
min adjusted pressure s/a 0.16EL296UH090XE48C
FAN SPEED
LOW 0
MEDIUM 1105
HIGH 1255AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
DESIGN CFM = 1525
CFM @ 0.5" E.S.P.

TEMPERATURE RISE 52 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	9	6
R/A	0	0	5	2	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-5	ENS-2	LAUN	ENS-3	MBR	BED-4	DIN	KT/GT	KT/GT	KT/GT	KT/GT	KT/GT	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.82	1.34	1.34	2.07	1.63	1.38	0.57	1.66	0.98	1.82	2.07	2.11	2.94	2.94	2.94	2.94	2.94	1.20	3.06	1.83	3.78	3.78	3.78	3.78
CFM PER RUN HEAT	40	30	30	46	36	31	13	37	22	40	46	47	65	65	65	65	65	27	68	41	84	84	84	84
RM GAIN MBH	2.83	0.86	0.86	2.50	2.01	2.36	0.19	2.17	0.43	2.83	3.17	2.55	2.82	2.82	2.82	2.82	2.82	0.24	0.61	1.45	0.52	0.52	0.52	0.52
CFM PER RUN COOLING	93	28	28	82	66	77	6	71	14	93	104	83	92	92	92	92	92	8	20	47	17	17	17	17
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	69	53	61	60	49	25	48	55	48	73	23	10	43	47	46	57	46	22	42	24	45	50	13	36
EQUIVALENT LENGTH	160	150	130	190	150	140	190	190	160	140	190	150	130	130	130	130	130	160	150	110	120	110	120	130
TOTAL EFFECTIVE LENGTH	229	203	191	250	199	165	238	245	208	213	213	160	173	177	176	187	187	182	192	134	165	160	133	166
ADJUSTED PRESSURE	0.07	0.08	0.09	0.06	0.09	0.1	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.13	0.1	0.1	0.1	0.12
ROUND DUCT SIZE	6	4	4	6	5	5	4	5	4	6	6	5	6	6	6	6	6	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	204	344	344	344	264	228	149	272	252	204	235	345	331	331	331	331	331	310	499	470	617	617	617	617
COOLING VELOCITY (ft/min)	474	321	321	321	418	565	69	521	161	474	530	609	469	469	469	469	469	92	147	539	125	125	125	125
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	A	A	E	E	C	E	D	E	B	E	C	A	A	B	B	B	E	D	C	A	B	C	D

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
ROOM NAME	BED-3	LAUN	BAS	FOY	BAS	WIC	BED-3	BAS	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5	ENS-4/5
RM LOSS MBH	1.63	1.66	3.78	3.06	1.63	0.81	1.63	3.78	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
CFM PER RUN HEAT	36	37	84	68	18	18	36	84	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CFM PER RUN COOLING	66	71	17	20	8	8	66	17	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
ADJUSTED PRESSURE	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	45	57	33	40	60	58	22	39	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
EQUIVALENT LENGTH	140	150	180	150	150	150	160	120	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
TOTAL EFFECTIVE LENGTH	185	207	213	190	210	218	218	142	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.08	0.08	0.08	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ROUND DUCT SIZE	5	5	6	5	5	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
HEATING VELOCITY (ft/min)	264	272	428	499	207	264	264	617	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
COOLING VELOCITY (ft/min)	485	521	87	147	92	485	485	125	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	E	B	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

SUPPLY AIR TRUNK SIZE													RETURN AIR TRUNK SIZE												
TRUNK	CFM	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	274	0.08	8.6	8	617	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	8								
TRUNK B	312	0.07	9.4	10	562	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.06	0	0	8								
TRUNK C	883	0.07	13.8	22	722	TRUNK I	0	0.00	0	0	8	TRUNK Q	0	0.06	0	0	8								
TRUNK D	378	0.07	10.1	12	567	TRUNK J	0	0.00	0	0	8	TRUNK R	0	0.06	0	0	8								
TRUNK E	640	0.06	12.8	20	576	TRUNK K	0	0.00	0	0	8	TRUNK S	0	0.06	0	0	8								
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	8	TRUNK T	0	0.06	0	0	8								

TYPE: 4202- ROSEDALE
SITE NAME: PINE VALLEY & TESTON

LO # 77466
OPT. 5 BED

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	4 @ 10.6 cfm 42.4 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm 63.6 cfm
Other Rooms	7 @ 10.6 cfm 74.2 cfm
Table 9.32.3.A. TOTAL	222.6 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	95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY	9.32.3.5.
Total Ventilation Capacity	222.6 cfm
Less Principal Ventil. Capacity	155 cfm
Required Supplemental Capacity	67.6 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	
ENS-2 QTXEN050C 50 <input checked="" type="checkbox"/> 0.3	
ENS-4/5 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: September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																					
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																					
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$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																					
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6.2.7 Sensible heat Gain due to Ventilation																																																																					
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																					
$155 \text{ CFM} \times 76 \text{ °F} \times 1.08 \times 0.25 = 661 \text{ Btu/h}$																																																																					
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																					
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>																																																																					

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4202- ROSEDALE	OPT. 5 BED	BUILDER: GOLD PARK HOMES
SFQT: 3785	LO# 77466	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)	72

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 (ft ³):	55077.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 68.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	202.0 ft

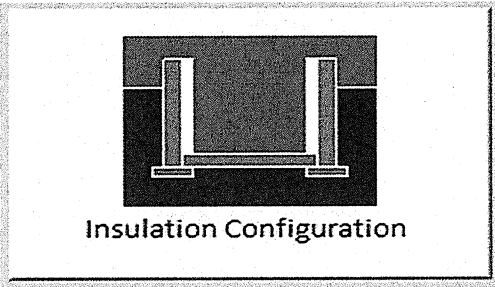
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement 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):	20.7	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.9	
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):		2028

TYPE: 4202- ROSEDALE
LO# 77466

OPT. 5 BED

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):	1559.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2079.0 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):	0.124			













TYPE: 4202- ROSEDALE
LO# 77466

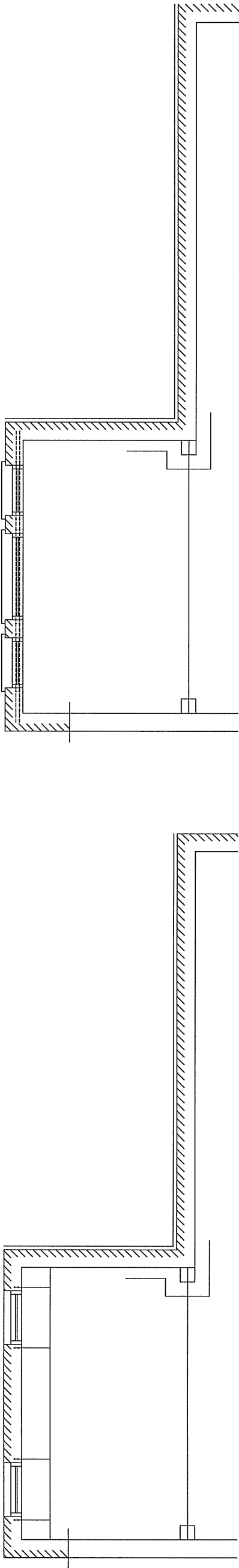
OPT. 5 BED

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.

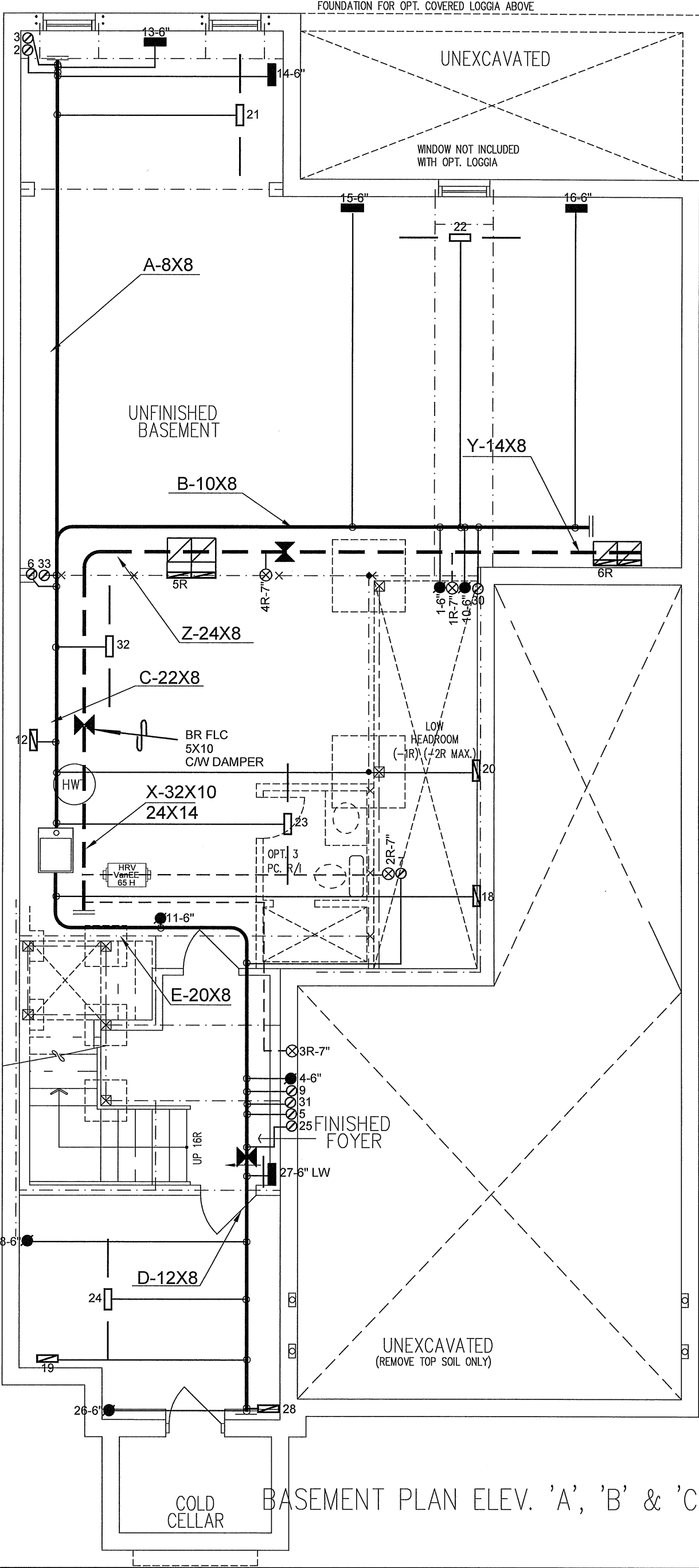
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND										3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	REVISIONS		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	SEPT/2018	
	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				



PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' - L.O.D. COND.

PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' - W.O.D. COND.



BASEMENT PLAN ELEV. 'A', 'B' & 'C'

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Client	GOLD PARK HOMES
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT. 5 BED ROSEDALE 4202
	3785 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@hvacadesigns.ca
Web: www.hvacadesigns.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.

HEAT LOSS 71709 BTU/H UNIT DATA	# OF RUNS	S/A	R/A	FANS
MAKE LENNOX	3RD FLOOR			
MODEL EL296UH090XE48C	2ND FLOOR	16	5	5
INPUT 88 MBTU/H	1ST FLOOR	9	2	2
OUTPUT 85 MBTU/H	BASEMENT	6	1	0
COOLING 4.0 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			
FAN SPEED 1525 cfm @ 0.6" w.c.				

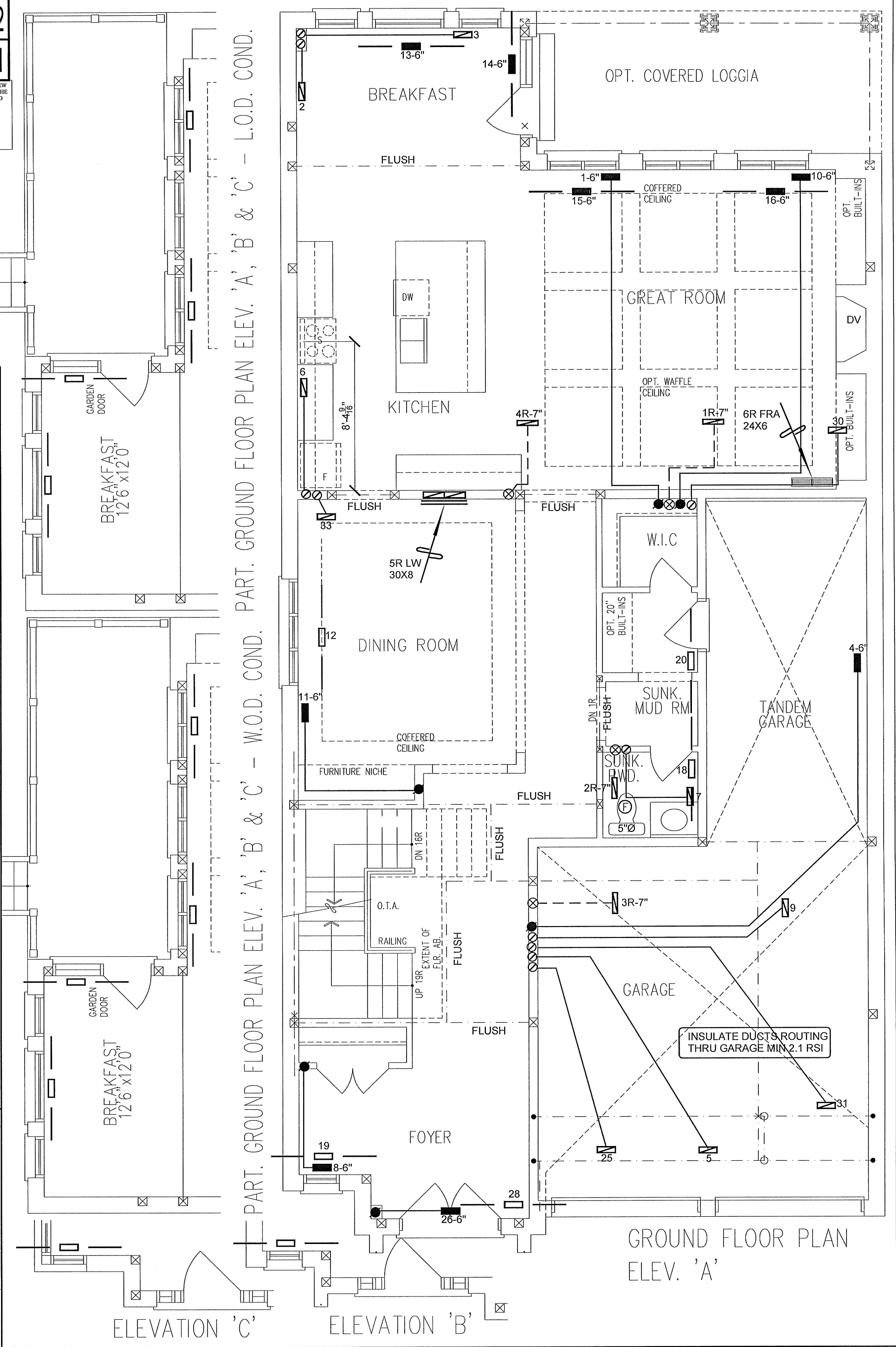
Sheet Title	BASEMENT HEATING LAYOUT
Date	JAN/2018
Scale	3/16" = 1'-0"
BCIN#	19669
LO#	77466

CSA-F280-12
PACKAGE A1

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.

HVAC LEGEND		
SYMBOL	DESCRIPTION	SYMBOL
	SUPPLY AIR GRILLE	
	SUPPLY AIR GRILLE 6" BOOT	
	SUPPLY AIR BOOT ABOVE	
	6" SUPPLY AIR STACK 2nd FLOOR	
	FRA-FLOOR RETURN AIR GRILLE	
	RETURN AIR STACK ABOVE	
	RETURN AIR STACK 2nd FLOOR	
	REDUCER	
REVISIONS		
No.	Description	Date
1.	DECK CONDITIONS ADDED	SEPT/2018

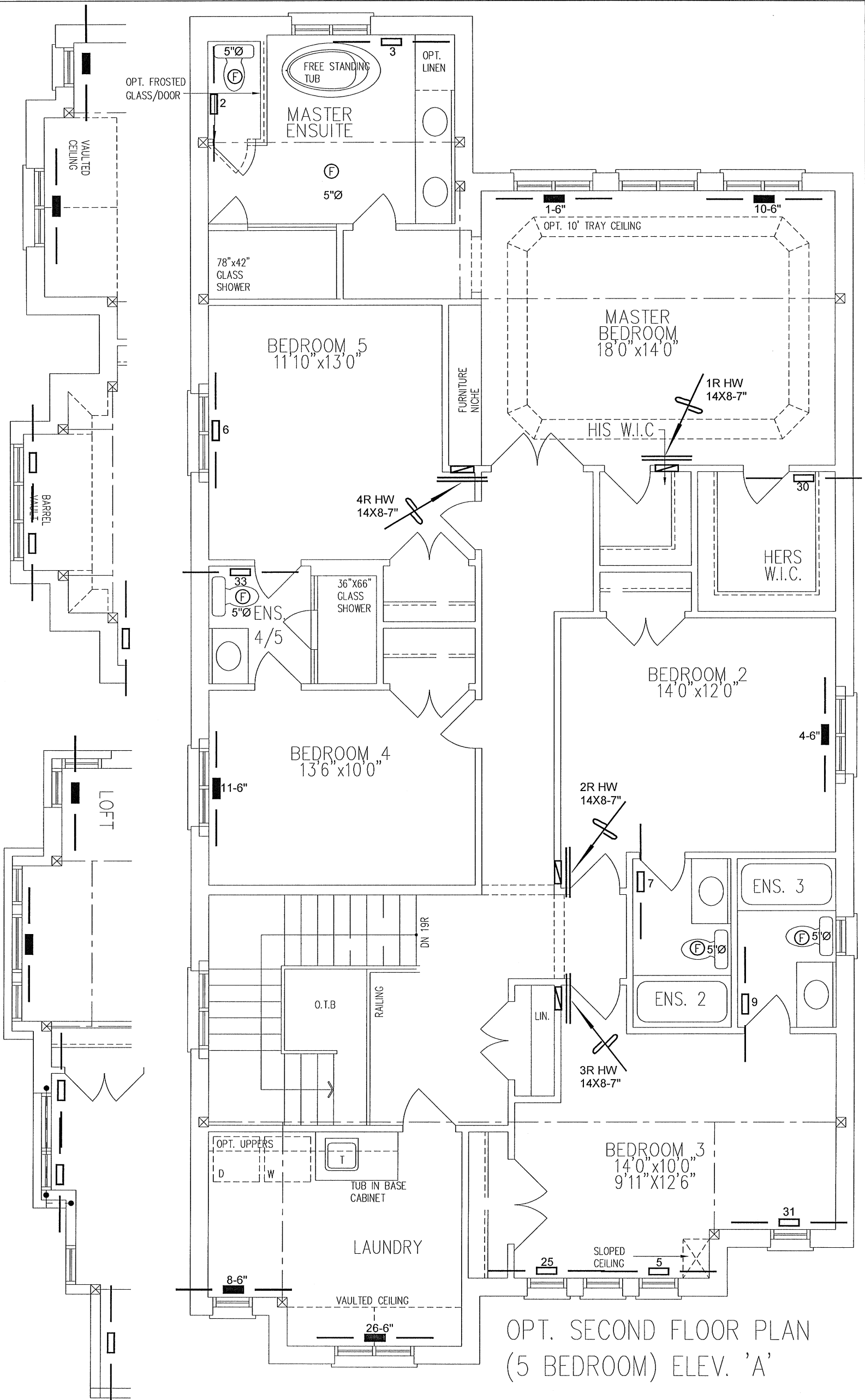


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Client GOLD PARK HOMES		<div></div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services</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 FIRST FLOOR HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			Date JAN/2018	
OPT. 5 BED ROSEDALE 4202			Scale 3/16" = 1'-0"	
3785 sqft			BCIN# 19669	
			LO#	77466

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

PARTIAL SECOND FLOOR PLAN – ELEVATION 'C'



LO#	77466
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