


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: 4202- ROSEDALE ALT 1ST 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				ALT 1ST		TYPE: 4202-ROSEDALE		GFA: 3592		DATE: Sep-18		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT "F."		CSA-F280-12	
BUILDER: GOLD PARK HOMES				MBR		ENS		HERS		BED-2		BED-3		BED-4		LOFT	
ROOM USE				EXP. WALL		CLG. HT.		FACTORS		GRS.WALL AREA		GLAZING		NORTH		EAST	
EXP. WALL				CLG. HT.		FACTORS		GRS.WALL AREA		GLAZING		NORTH		EAST		SOUTH	
CLG. HT.				FACTORS		GRS.WALL AREA		GLAZING		NORTH		EAST		SOUTH		WEST	
GRS.WALL AREA				GLAZING		NORTH		EAST		SOUTH		WEST		SKYL.T.		DOORS	
GLAZING				NORTH		EAST		SOUTH		WEST		SKYL.T.		DOORS		NET EXPOSED WALL	
NORTH				EAST		SOUTH		WEST		SKYL.T.		DOORS		NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG	
EAST				SOUTH		WEST		SKYL.T.		DOORS		NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG		NO A TTIC EXPOSED CLG	
SOUTH				WEST		SKYL.T.		DOORS		NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG		NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS	
WEST				SKYL.T.		DOORS		NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG		NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS	
SKYL.T.				DOORS		NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG		NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS	
DOORS				NET EXPOSED BSMT WALL ABOVE GR		EXPOSED CLG		NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS		SUB TOTAL HT GAIN	
NET EXPOSED WALL				EXPOSED CLG		NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS		SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER	
EXPOSED CLG				NO A TTIC EXPOSED CLG		BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS		SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS	
NO A TTIC EXPOSED CLG				BASEMENT/CRAWL HEAT LOSS		SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS		SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN	
BASEMENT/CRAWL HEAT LOSS				SLAB ON GRADE HEAT LOSS		SUBTOTAL HT LOSS		SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN		DUCT LOSS	
SLAB ON GRADE HEAT LOSS				SUBTOTAL HT LOSS		SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN		DUCT LOSS		HEAT GAIN PEOPLE	
SUBTOTAL HT LOSS				SUB TOTAL HT GAIN		LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN		DUCT LOSS		HEAT GAIN PEOPLE		HEAT GAIN APPLIANCES/LIGHTS	
SUB TOTAL HT GAIN				LEVEL FACTOR / MULTIPLIER		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN		DUCT LOSS		HEAT GAIN PEOPLE		HEAT GAIN APPLIANCES/LIGHTS		TOTAL HT LOSS BTU/H	
LEVEL FACTOR / MULTIPLIER				AIR CHANGE HEAT LOSS		AIR CHANGE HEAT GAIN		DUCT LOSS		HEAT GAIN PEOPLE		HEAT GAIN APPLIANCES/LIGHTS		TOTAL HT LOSS BTU/H		TOTAL HT GAIN x 1.3 BTU/H	
AIR CHANGE HEAT LOSS				AIR CHANGE HEAT GAIN		DUCT LOSS		HEAT GAIN PEOPLE		HEAT GAIN APPLIANCES/LIGHTS		TOTAL HT LOSS BTU/H		TOTAL HT GAIN x 1.3 BTU/H			
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DUCT LOSS				HEAT GAIN PEOPLE		HEAT GAIN APPLIANCES/LIGHTS		TOTAL HT LOSS BTU/H		TOTAL HT GAIN x 1.3 BTU/H							
HEAT GAIN PEOPLE				HEAT GAIN APPLIANCES/LIGHTS		TOTAL HT LOSS BTU/H		TOTAL HT GAIN x 1.3 BTU/H									
HEAT GAIN APPLIANCES/LIGHTS				TOTAL HT LOSS BTU/H		TOTAL HT GAIN x 1.3 BTU/H											
TOTAL HT LOSS BTU/H				TOTAL HT GAIN x 1.3 BTU/H													
TOTAL HT GAIN x 1.3 BTU/H																	

TOTAL COMBINED HEAT LOSS BTU/H: 71880

STRUCTURAL HEAT LOSS: 88699

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

TONS: 3.95

TOTAL HEAT GAIN BTU/H: 47487



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

TYPE: 4202-ROSEDALE
ALT 1ST

DATE: Sep-18

GFA: 3592

LO# 77529

HEATING CFM 1525
TOTAL HEAT LOSS 68,689
AIR FLOW RATE CFM 22.2

COOLING CFM 1525
TOTAL HEAT GAIN 48,826
AIR FLOW RATE CFM 32.57

ALLENNOX
EL296UH090XE48C 90
FAN SPEED
LOW 0
MEDIUM 1105
HIGH 1255

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

DESIGN CFM = 1525
CFM @ 8" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	17	9	6
R/A	0	0	5	2	1

plenum pressure s/a 0.18
max s/a diff press. loss 0.02
min adjusted pressure s/a 0.16
r/a pressure 0.17
r/a grille press. loss 0.02
adjusted pressure r/a 0.15

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-3	ENS-2	LOFT	ENS-3	MBR	ENS-4	DIN	K7/GT	K7/GT	K7/GT	K7/GT	LAUN	LIB	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.29	1.31	1.31	2.52	1.58	1.58	1.27	2.20	0.95	2.29	0.86	2.02	2.82	2.82	2.82	2.82	0.16	1.40	2.94	2.60	3.63	3.63	3.63	3.63
CFM PER RUN HEAT	51	29	29	56	35	35	28	5	49	51	19	45	63	63	63	63	3	31	65	58	81	81	81	81
RM GAIN MBH	2.91	1.01	1.01	2.48	1.94	1.94	2.16	0.08	0.43	2.91	0.51	2.37	2.75	2.75	2.75	2.75	1.00	1.61	0.61	1.45	0.50	0.50	0.50	0.50
CFM PER RUN COOLING	95	33	33	81	63	63	70	3	87	95	17	77	90	90	90	90	33	53	20	47	16	16	16	16
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	69	53	53	61	39	49	25	42	55	48	73	39	10	43	46	57	52	36	42	27	45	50	13	36
TOTAL EFFECTIVE LENGTH	160	150	130	180	150	150	140	190	160	140	140	150	130	130	130	130	190	120	150	160	120	110	120	130
ADJUSTED PRESSURE	0.07	0.08	0.09	0.07	0.09	0.09	0.1	0.07	0.08	0.08	0.1	0.11	0.09	0.09	0.09	0.09	0.07	0.11	0.09	0.09	0.1	0.1	0.12	0.1
ROUND DUCT SIZE	6	4	4	6	5	5	4	4	6	4	4	5	6	6	6	6	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	260	333	333	286	257	257	206	57	250	241	260	218	330	321	321	321	34	356	477	426	595	595	595	595
COOLING VELOCITY (ft/min)	484	379	379	413	463	463	514	34	444	161	484	195	565	459	459	459	379	608	147	345	117	117	117	117
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	A	A	C	E	C	E	D	E	B	C	C	A	A	B	B	B	C	D	E	A	B	C	D

TEMPERATURE RISE 52 °F

RUN #	25	26	27	28	29	30	31	32
ROOM NAME	BED-3	LOFT	BAS	FOY	HERS	HIS	BED-3	BAS
RM LOSS MBH	1.58	2.20	3.63	2.94	0.57	0.84	1.58	3.63
CFM PER RUN HEAT	35	49	81	65	13	19	35	81
RM GAIN MBH	1.94	2.69	0.50	0.61	0.19	0.25	1.94	0.50
CFM PER RUN COOLING	63	87	16	20	6	8	63	16
ADJUSTED PRESSURE	0.17	0.16	0.16	0.17	0.17	0.17	0.16	0.16
EQUIVALENT LENGTH	45	57	33	40	50	60	58	22
TOTAL EFFECTIVE LENGTH	140	150	180	150	180	150	160	120
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.07	0.08	0.08	0.11
ROUND DUCT SIZE	5	6	5	5	4	4	5	5
HEATING VELOCITY (ft/min)	257	250	595	477	149	218	257	595
COOLING VELOCITY (ft/min)	463	444	117	147	69	92	463	117
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	B	B	E	C

TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	265	0.08	8.5	8	596	TRUNK G	0	0.00	0	0	0
TRUNK B	344	0.07	9.7	12	8	TRUNK H	0	0.00	0	0	0
TRUNK C	950	0.07	14.2	24	8	TRUNK I	0	0.00	0	0	0
TRUNK D	390	0.07	10.2	12	8	TRUNK J	0	0.00	0	0	0
TRUNK E	579	0.07	11.8	16	8	TRUNK K	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7
AIR VOLUME	0	0	0	0	0	0	0
PLenum PRESSURE	130	125	130	130	340	340	130
ACTUAL DUCT LGH	62	69	49	53	30	52	56
EQUIVALENT LENGTH	155	165	145	185	185	140	150
TOTAL EFFECTIVE LH	217	234	194	238	215	192	206
ADJUSTED PRESSURE	0.07	0.06	0.08	0.06	0.07	0.08	0.07
ROUND DUCT SIZE	6.8	6.9	6.5	7	9.7	9.4	6.8
INLET GRILL SIZE	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	30	30	14

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

LO # 77529
ALT 1ST

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	8 @ 10.6 cfm	84.8 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		79.5 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
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	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)																																																																			
LO#: 77529	Model: 4202- ROSEDALE	Builder: GOLD PARK HOMES	Date: 9/10/2018																																																																
Volume Calculation		Air Change & Delta T Data																																																																	
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5.2.3.1 Heat Loss due to Air Leakage																																																																			
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <div style="display: flex; justify-content: space-between;"> 0.340 x 401.34 x 42 °C x 1.2 = 6915 W = 524 W </div> <div style="display: flex; justify-content: space-between;"> = 23594 Btu/h = 1789 Btu/h </div>																																																																			
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <div style="display: flex; justify-content: space-between;"> 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h = 661 Btu/h </div>																																																																			
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{qgr} + HL_{bgcr}) \div (HL_{qclvl} + HL_{bgclvl})\}$																																																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLaive Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clvl})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLaiveb / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">23,594</td> <td>9,986</td> <td>1.181</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>16,113</td> <td>0.439</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>17,763</td> <td>0.266</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)	HLaive Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvl})	Air Leakage Heat Loss Multiplier (LF x HLaiveb / HLlevel)	1	0.5	23,594	9,986	1.181	2	0.3	16,113	0.439	3	0.2	17,763	0.266	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: 4202- ROSEDALE	ALT 1ST	BUILDER: GOLD PARK HOMES
SFQT: 3592	LO# 77529	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 (ft³):	51024.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	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

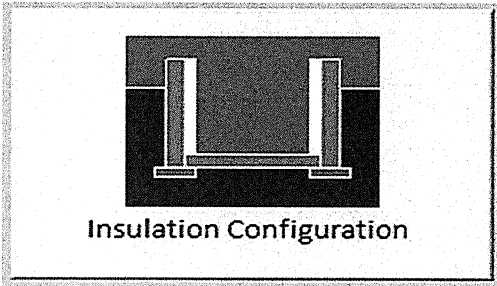
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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):	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):	2.0	
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):	2025	

TYPE: 4202- ROSEDALE
LO# 77529

ALT 1ST

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):	1444.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1926.0 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# 77529















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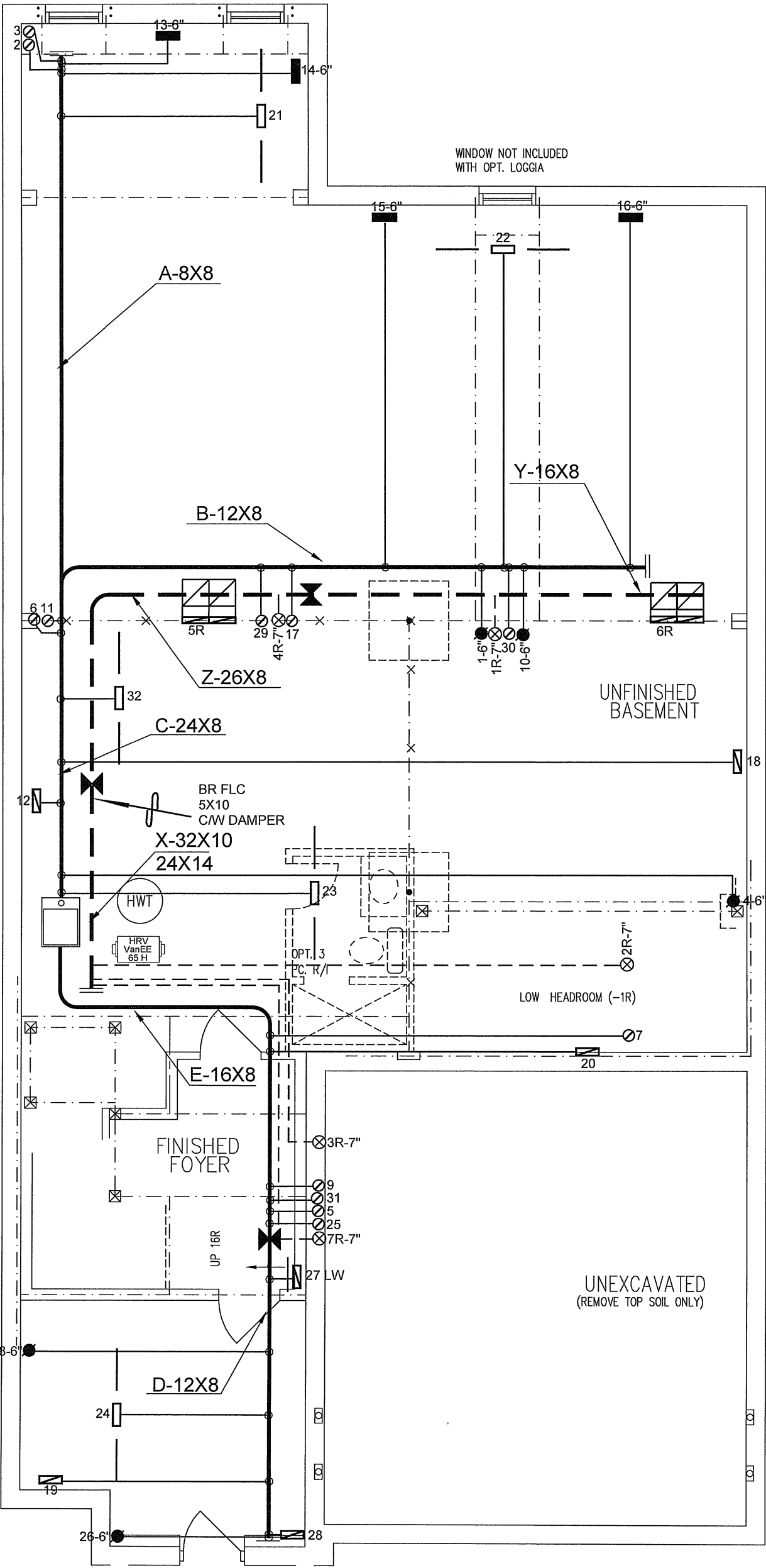
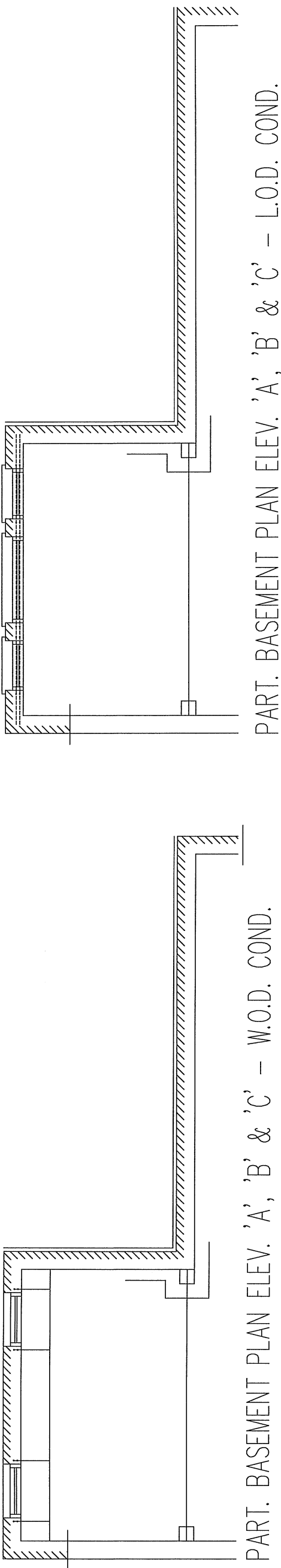
CSA-F280-12

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, BCIN# 19669
HVAC DESIGNS LTD.

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



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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO ALT. 1ST ROSEDALE 4202

3592 sqft



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.

HEAT LOSS 71880 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

17 5 6

1ST FLOOR

9 2 2

BASEMENT

6 1 0

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

Sheet Title

BASEMENT HEATING LAYOUT

Date

JAN/2018

Scale

3/16" = 1'-0"

BCIN# 19669














LO# 77529

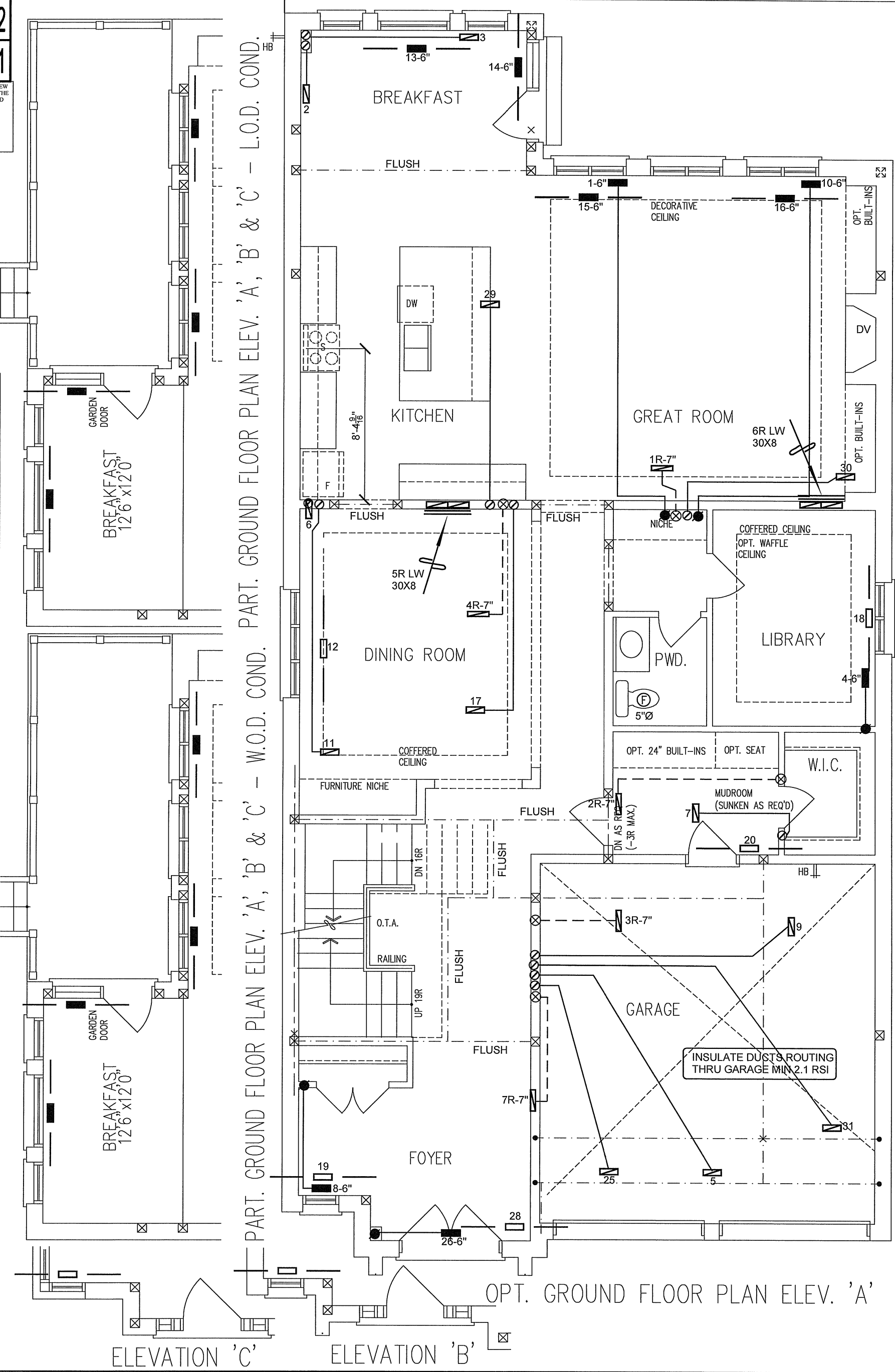
CSA-F280-12

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, B.C.M.A. 19669
HVAC DESIGNS LTD.

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



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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
ALT. 1ST
ROSEDALE
4202

3592 sqft


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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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

JAN/2018

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

77529

CSA-F280-12
PACKAGE A1

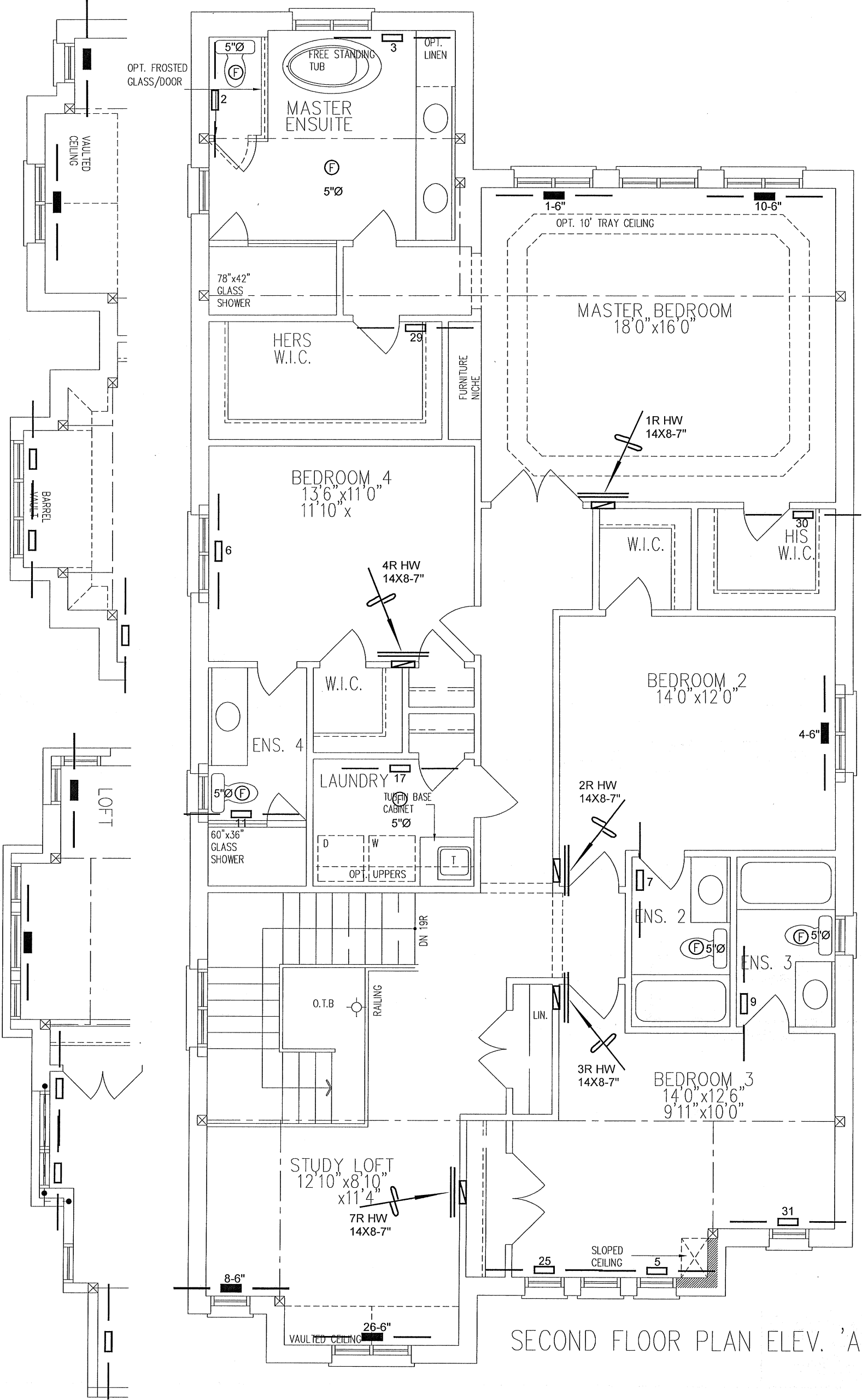
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND		
SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE	2.
	SUPPLY AIR BOOT ABOVE	1.
	SUPPLY AIR STACK ABOVE	
	SUPPLY AIR STACK FROM 2nd FLOOR	
	SUPPLY AIR STACK 2nd FLOOR	
	14"x8" RETURN AIR GRILLE	
	30"x8" RETURN AIR GRILLE	
	RETURN AIR STACK ABOVE	
	RETURN AIR STACK 2nd FLOOR	
	REDUCER	
REVISIONS		
Description	No.	Date
DECK CONDITIONS ADDED	1.	SEPT/2018

PARTIAL SECOND FLOOR PLAN - ELEVATION 'B'

PARTIAL SECOND FLOOR PLAN - ELEVATION 'C'



SECOND FLOOR PLAN ELEV. 'A'

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Client
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Project Name
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VAUGHAN, ONTARIO
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Sheet Title	
SECOND FLOOR HEATING LAYOUT	
Date	JAN/2018
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	77529