


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@hvacadesigns.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> (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.			
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

OPT. 5 BED
 TYPE: 4202-ROSEDALE

GFA: 3592

DATE: Nov-18
 LO# 77466

WINTER NATURAL AIR CHANGE RATE 0.340
 SUMMER NATURAL AIR CHANGE RATE 0.124

HEAT LOSS ΔT °F. 76
 HEAT GAIN ΔT °F. 16

CSA-F280-12
 SB-12 PACKAGE A1

ROOM USE	MBR		ENS		BED-2		BED-3		BED-4		ENS-2		BED-5		ENS-3		ENS-4/5			
EXP. WALL	34		37		12		36		16		0		13		9		6			
CLG. HT.	10		9		9		9		9		9		9		9		9			
FACTORS																				
GRS.WALL AREA	340		333		108		324		144		0		117		81		54			
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN			
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	0	0	0	0	9	192	151	0	0	0
EAST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	25.7	0	0	0	0	0	0	0	38	809	978	0	0	0	0	0	0	0	0
WEST	21.3	42.4	54	1149	2289	18	383	763	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	286	1276	265	315	1406	292	90	402	83	271	1209	251	106	473	98	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	285	366	182	210	270	134	228	293	146	280	359	179	240	308	153	104	133	66
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	144	367	76	280	714	148	0	0	0	104	265	55
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			2791		2058		1445		3411		1590		399		1058		685		349	
SUB TOTAL HT GAIN			2736		1189		608		2825		1230		122		671		271		104	
LEVEL FACTOR / MULTIPLIER	0.20		0.28		0.20		0.28		0.20		0.28		0.20		0.28		0.20		0.28	
AIR CHANGE HEAT LOSS	779		575		403		65		185		436		51		88		30		0	
AIR CHANGE HEAT GAIN	293		127		186		431		0		13		0		30		0		0	
DUCT LOSS	0		0		1		240		1		240		0		0		0		0	
DUCT GAIN	240		2		480		0		0		0		1		240		0		0	
HEAT GAIN PEOPLE	240		2		480		0		0		0		1		240		0		0	
HEAT GAIN APPLIANCES/LIGHTS	945		945		0		945		945		945		0		945		0		0	
TOTAL HT LOSS BTU/H	3570		2633		2033		4799		2033		561		1354		964		446		149	
TOTAL HT GAIN x 1.3 BTU/H	5791		1712		2658		6168		3311		192		2507		429		149			

ROOM USE	DIN		KT/GT		LAUN		PWD		FOY		MUD		WIC		LOD		BAS				
EXP. WALL	17		100		32		15		59		15		6		43		202				
CLG. HT.	11		11		9		12		11		12		9		10		10				
FACTORS																					
GRS.WALL AREA	187		1100		288		180		649		180		54		430		1672				
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN				
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EAST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
SOUTH	21.3	25.7	34	724	875	29	617	746	0	0	0	0	0	0	0	0	0	0			
WEST	21.3	42.4	0	0	0	123	2617	5214	0	0	0	0	0	0	0	20	426	848			
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
DOORS	25.2	5.2	0	0	0	10	252	52	0	0	0	57	1439	299	20	505	105	20	505	105	
NET EXPOSED WALL	4.5	0.9	153	683	142	928	4141	861	247	1102	229	180	803	167	592	2642	549	160	714	148	
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	84	108	54	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	0	0	0	84	214	45	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0		0		0		0		0		0		0		0		6921		
SLAB ON GRADE HEAT LOSS			0		0		0		0		0		0		0		0		0		
SUBTOTAL HT LOSS			1406		7841		2555		803		4081		1219		563		1282		8678		
SUB TOTAL HT GAIN			1017		7042		2256		167		848		253		148		1026		365		
LEVEL FACTOR / MULTIPLIER	0.30		0.46		0.30		0.46		0.30		0.46		0.30		0.46		0.50		1.18		
AIR CHANGE HEAT LOSS	648		3615		713		370		1882		562		157		16		0		11797		
AIR CHANGE HEAT GAIN	109		754		242		18		91		27		16		0		0		149		
DUCT LOSS	0		0		0		0		0		0		72		0		0		0		
DUCT GAIN	240		0		0		0		0		0		16		0		0		0		
HEAT GAIN PEOPLE	240		0		0		0		0		0		0		0		0		0		
HEAT GAIN APPLIANCES/LIGHTS	945		945		945		945		0		0		0		0		0		945		
TOTAL HT LOSS BTU/H	2055		11457		3268		1174		5963		1781		792		1282		20475		1897		
TOTAL HT GAIN x 1.3 BTU/H	2693		11364		4476		240		1221		365		235		1334		1897				

TOTAL HEAT GAIN BTU/H: 47402 TONS: 3.95 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 66640 TOTAL COMBINED HEAT LOSS BTU/H: 69821



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

OPT. 5 BED
 TYPE: 4202- ROSEDALE

DATE: Nov-18

GFA: 3592 LO# 77466

HEATING CFM 1525 COOLING CFM 1525
 TOTAL HEAT LOSS 66,640 TOTAL HEAT GAIN 46,740
 AIR FLOW RATE CFM 22.88 AIR FLOW RATE CFM 32.63

furnace pressure 0.6
 furnace filter 0.05
 a/c coil pressure 0.2
 available pressure
 for s/a & r/a 0.35

LENNOX
EL296UH090XE48C
 FAN SPEED 90
 LOW 0
 MEDLOW 0
 MEDIUM 1105
 MEDIUM HIGH 1255
 HIGH 1525

AFUE = 96 %
 INPUT (BTU/H) = 88,000
 OUTPUT (BTU/H) = **85,000**
 DESIGN CFM = **1525**
 CFM @ .6" 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	6	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	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	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.79	1.32	1.32	2.03	1.60	1.35	0.56	1.63	0.96	1.79	2.03	2.05	2.86	2.86	2.86	2.86	1.17	2.98	1.78	3.63	3.63	3.63	3.63
CFM PER RUN HEAT	41	30	30	47	37	31	13	37	22	41	47	47	66	66	66	66	27	68	41	83	83	83	83
RM GAIN MBH.	2.90	0.86	0.86	2.66	2.06	2.51	0.19	2.24	0.43	2.90	3.31	2.69	2.84	2.84	2.84	2.84	0.24	0.61	0.36	0.54	0.54	0.54	0.54
CFM PER RUN COOLING	94	28	28	87	67	82	6	73	14	94	108	88	93	93	93	93	8	20	12	18	18	18	18
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.16	0.15	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	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	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	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	0.07	0.1	0.09	0.09	0.09	0.09	0.09	0.09	0.13	0.1	0.1	0.12	0.1
ROUND DUCT SIZE	6	4	4	6	5	6	4	5	4	6	6	6	6	6	6	6	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	209	344	344	240	272	158	149	272	252	209	240	240	337	337	337	337	310	499	470	609	609	609	609
COOLING VELOCITY (ft/min)	479	321	321	444	492	418	69	536	161	479	551	449	474	474	474	474	92	147	138	132	132	132	132
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	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	E	D	C	A	B	C	D

RUN #	25	26	27	28	30	31	32	33
ROOM NAME	BED-3	LAUN	BAS	FOY	WIC	BED-3	BAS	ENS-4/5
RM LOSS MBH.	1.60	1.63	3.63	2.98	0.79	1.60	3.63	0.45
CFM PER RUN HEAT	37	37	83	68	18	37	83	10
RM GAIN MBH.	2.06	2.24	0.54	0.61	0.23	2.06	0.54	0.15
CFM PER RUN COOLING	67	73	18	20	8	67	18	5
ADJUSTED PRESSURE	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17
ACTUAL DUCT LGH.	45	57	33	40	60	58	22	39
EQUIVALENT LENGTH	140	150	180	150	150	160	120	140
TOTAL EFFECTIVE LENGTH	185	207	213	190	210	218	142	179
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.08	0.08	0.11	0.1
ROUND DUCT SIZE	5	5	6	5	4	5	5	4
HEATING VELOCITY (ft/min)	272	272	423	499	207	272	609	115
COOLING VELOCITY (ft/min)	492	536	92	147	92	492	132	57
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	B	E	C	C

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK A	275	0.08	8.6	8	x	8
TRUNK B	315	0.07	9.4	12	x	8
TRUNK C	885	0.07	13.9	22	x	8
TRUNK D	376	0.07	10.1	12	x	8
TRUNK E	643	0.06	12.8	20	x	8
TRUNK F	0	0.00	0	0	x	8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8
TRUNK P	0	0.06	0	0	x	8
TRUNK Q	0	0.06	0	0	x	8
TRUNK R	0	0.06	0	0	x	8
TRUNK S	0	0.06	0	0	x	8
TRUNK T	0	0.06	0	0	x	8
TRUNK U	0	0.06	0	0	x	8
TRUNK V	0	0.06	0	0	x	8
TRUNK W	0	0.06	0	0	x	8

RETURN AIR #

	1	2	3	4	5	6	7	8	0	0	0	0	0	0	0	0	BR
AIR VOLUME	130	130	130	130	360	300	50	50	0	0	0	0	0	0	0	0	245
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	62	69	49	53	30	52	60	57	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	155	165	145	185	185	140	205	205	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	217	234	194	238	215	192	265	262	1	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.07	0.06	0.08	0.06	0.07	0.08	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	6.8	7	6.5	7	9.9	8.9	4.9	4.9	0	0	0	0	0	0	0	0	8
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	30	14	14	0	0	0	0	0	0	0	0	24

TYPE: 4202- ROSEDALE LO # 77466
 SITE NAME: PINE VALLEY & TESTON OPT. 5 BED

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	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 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 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: *Michael O'Rourke*

HRAI # 001820

Date: September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations Formula Sheet (For Air Leakage / Ventilation Calculation)			
LO#: 77466	Model: 4202- ROSEDALE	Builder: GOLD PARK HOMES	Date: 9/10/2018
Volume Calculation			
House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1733	10	17330
First	1733	11	19063
Second	2076	9	18684
Third	0	9	0
Fourth	0	9	0
	Total:		55,077.0 ft ³
	Total:		1559.6 m ³
5.2.3.1 Heat Loss due to Air Leakage			
$HL_{air-b} = LR_{air-h} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$			
0.340	x	433.22	x
		42 °C	x
			1.2
			=
		7464 W	
			=
		25468 Btu/h	
5.2.3.2 Heat Loss due to Mechanical Ventilation			
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$			
155 CFM	x	76 °F	x
		1.08	x
			0.25
			=
		3181 Btu/h	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)			
$HL_{air-r} = Level Factor \times HL_{air-bv} \times \{ (HL_{qgr} + HL_{pgr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$			
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5		1.278
2	0.3		0.498
3	0.2	25,468	0.301
4	0		0.000
5	0		0.000
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairbv = 0			
6.2.6 Sensible Gain due to Air Leakage			
$HG_{satb} = LR_{air-c} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$			
=	0.124	x	433.22
		x	9 °C
			x
			1.2
			=
		566 W	
			=
		1931 Btu/h	
6.2.7 Sensible heat Gain due to Ventilation			
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$			
155 CFM	x	16 °F	x
		1.08	x
			0.25
			=
		661 Btu/h	

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

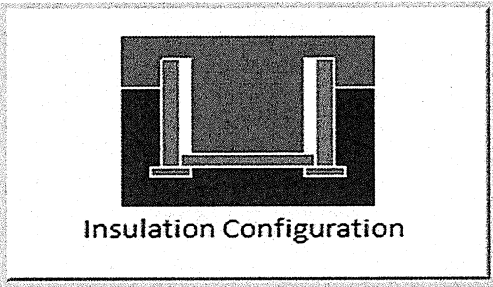
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	55077.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED 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		
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	 <p>Insulation Configuration</p>
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. 3.57	2079.0 cm ² ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply 73.2	Total Exhaust 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

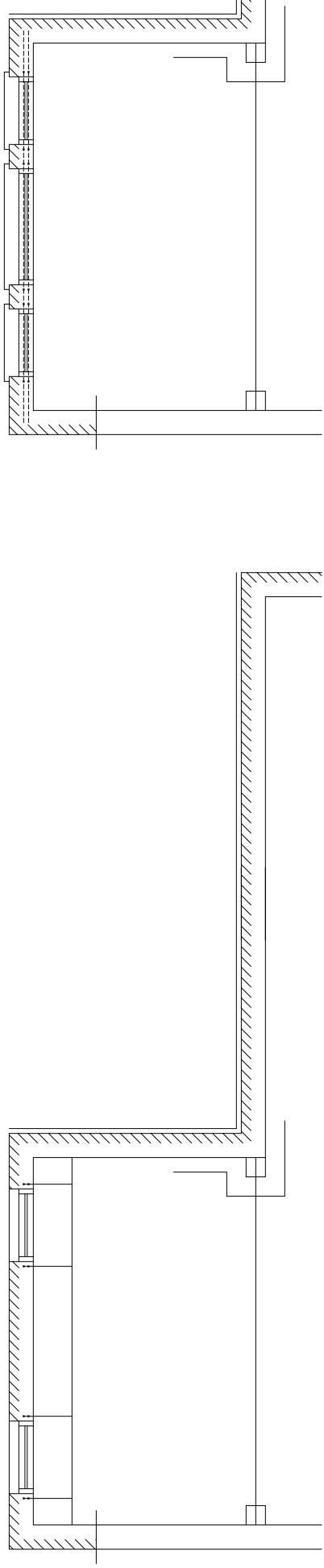
CSA-F280-12
PACKAGE A1
WOD
LOD

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.

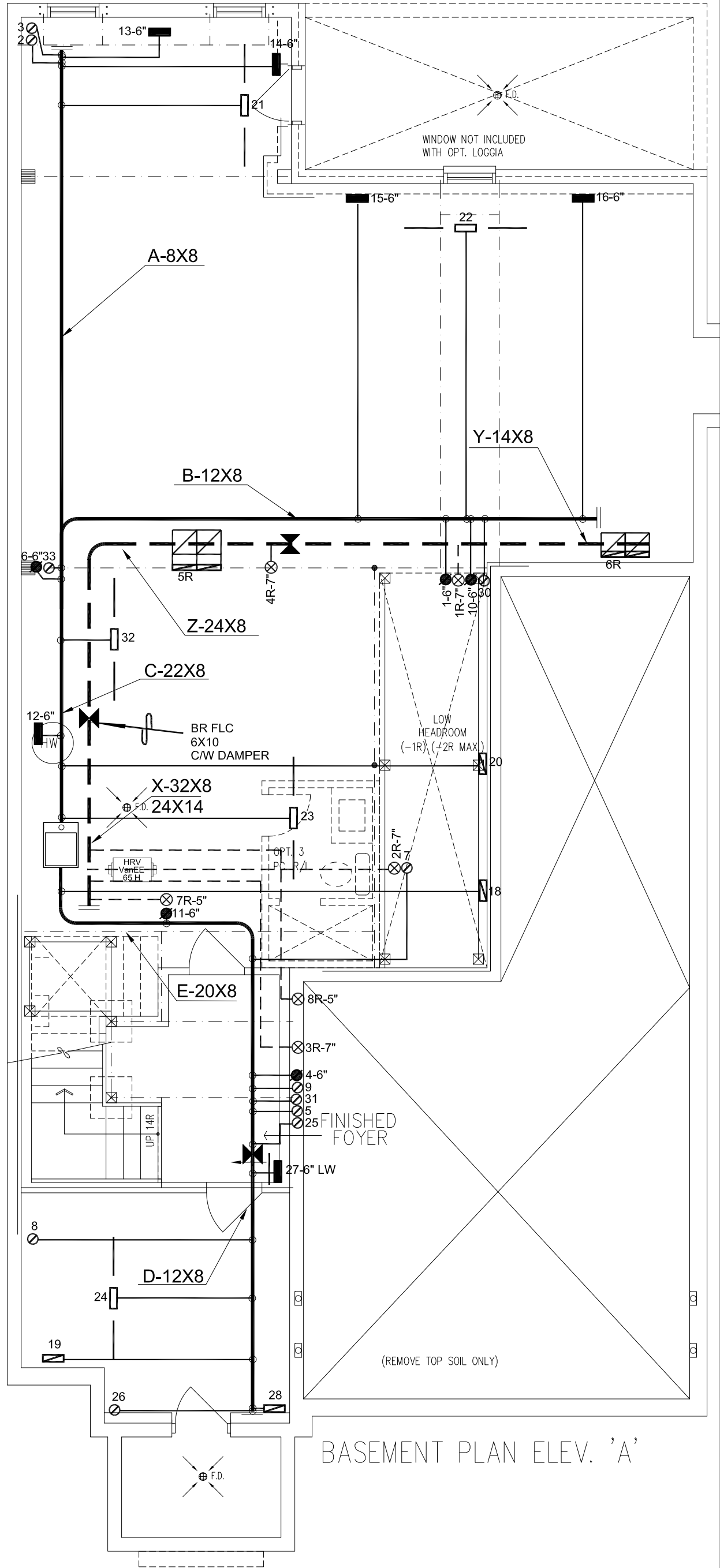
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		6" SUPPLY AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		FRA-FLOOR RETURN AIR GRILLE

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	FRA-FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
1.	DECK CONDITIONS ADDED	SEPT/2018
2.	ADDED RETURN #8 TO HALL	NOV/2018
3.	REVISED AS PER ARCHITECTURALS	FEB/2020



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



BASEMENT PLAN ELEV. 'A'

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Client
GOLD PARK HOMES
 Project Name
PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT. 5 BED
ROSEDALE
4202
 3592 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@hvacedesigns.ca
 Web: www.hvacedesigns.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	69821 BTU/H	# OF RUNS	S/A	R/A	FANS
MAKE	LENNOX	3RD FLOOR			
MODEL	EL296UH090XE48C	2ND FLOOR	16	6	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	Date	Scale	BCIN#	LO#
BASEMENT HEATING LAYOUT	JAN/2018	3/16" = 1'-0"	19669	77466

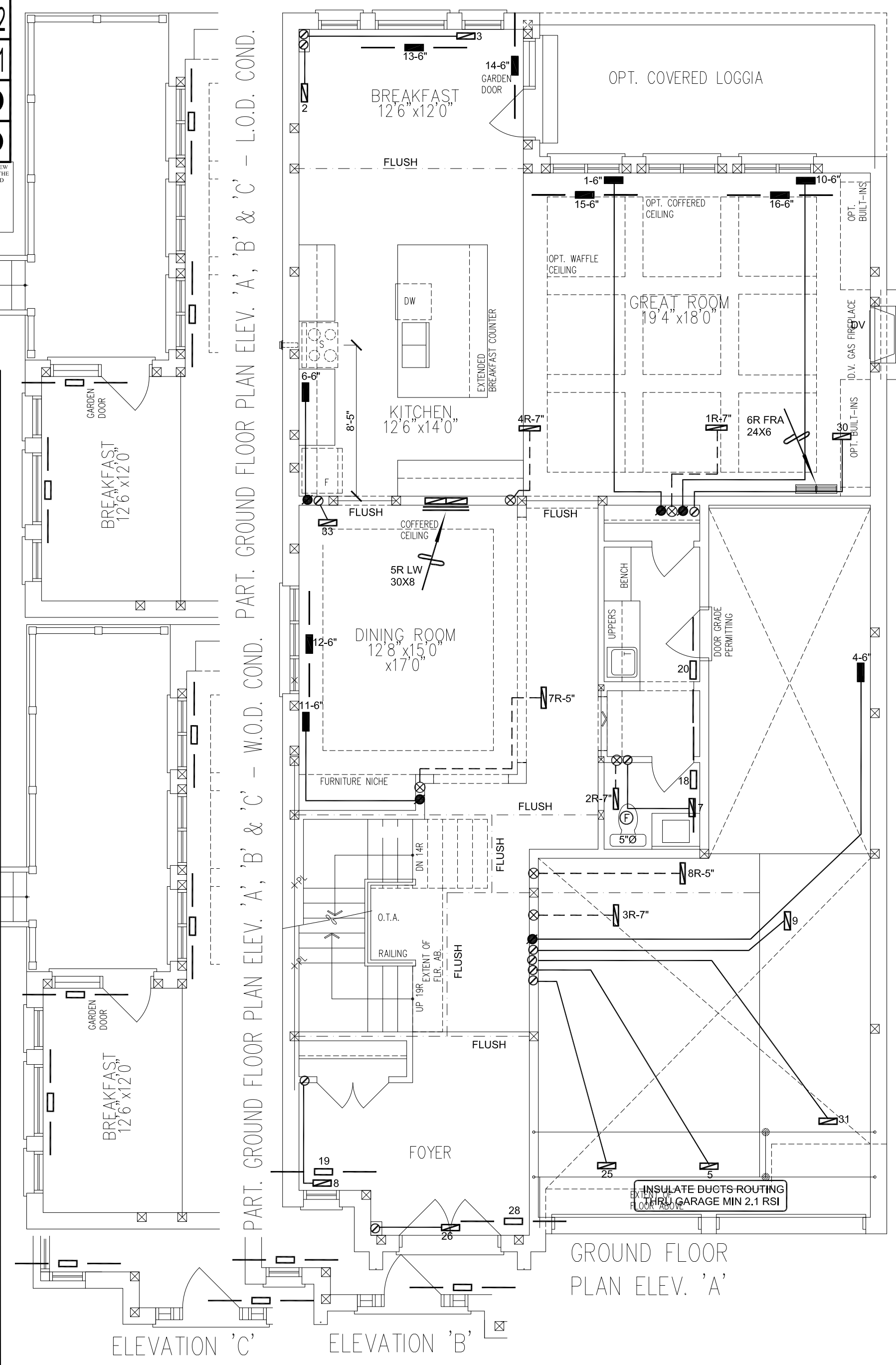
CSA-F280-12
PACKAGE A1
WOD
LOD

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	
	SUPPLY AIR GRILLE
	SUPPLY AIR BOOT
	SUPPLY AIR STACK
	RETURN AIR GRILLE
	RETURN AIR STACK
	REDUCER

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		SUPPLY AIR STACK
	SUPPLY AIR BOOT		RETURN AIR STACK
	SUPPLY AIR STACK		RETURN AIR STACK
	RETURN AIR STACK		REDUCER

NO.	DESCRIPTION	DATE
1.	DECK CONDITIONS ADDED	SEPT/2018
2.	ADDED RETURN #8 TO HALL	NOV/2018
3.	REVISED AS PER ARCHITECTURALS	FEB/2020



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Client
GOLD PARK HOMES
 Project Name
PINE VALLEY & TESTON VAUGHAN, ONTARIO
OPT. 5 BED ROSEDALE
4202 **3592 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
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 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.

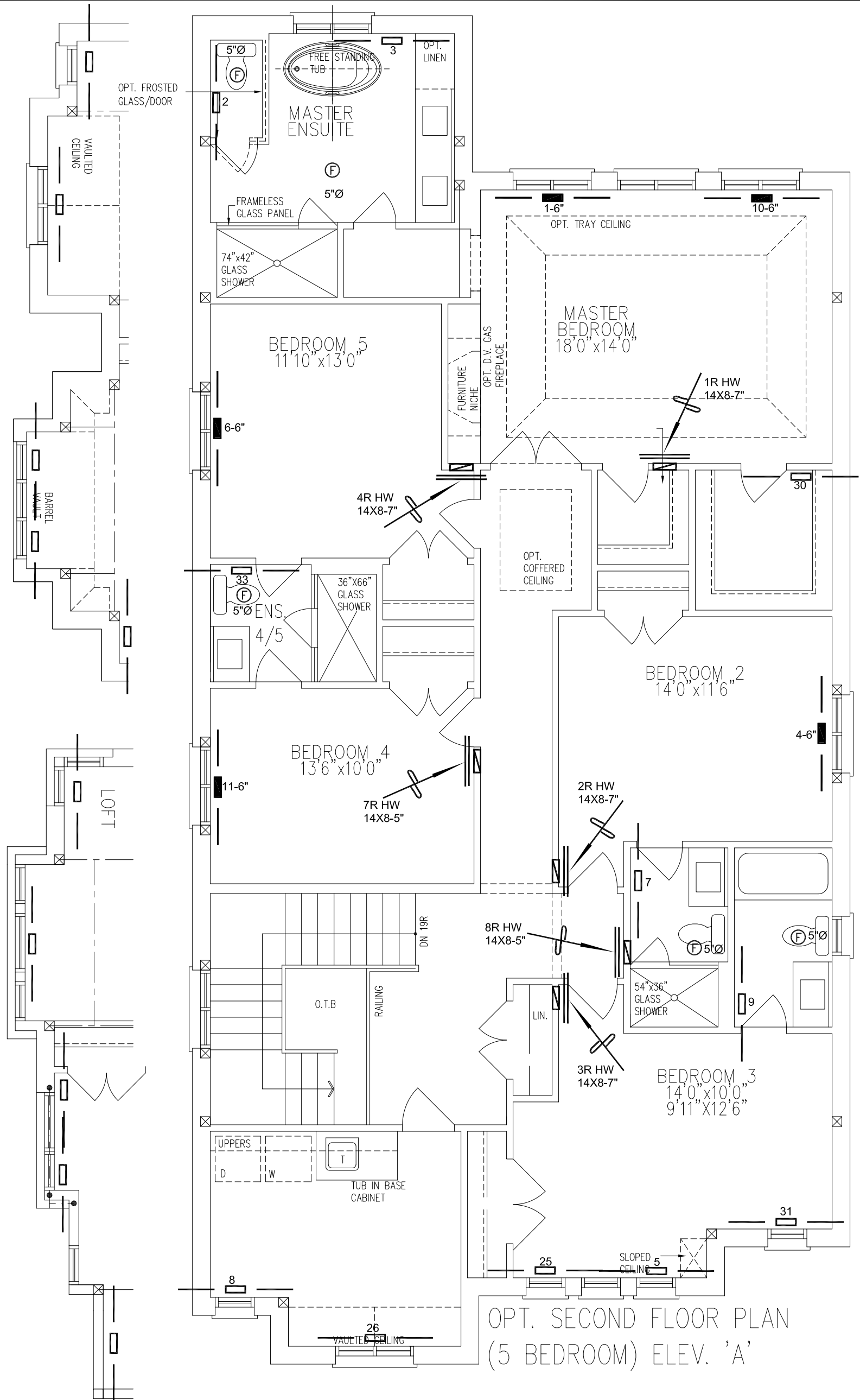
Sheet Title	FIRST FLOOR HEATING LAYOUT
Date	JAN/2018
Scale	3/16" = 1'-0"
	BCIN# 19669
LO#	77466

CSA-F280-12
 PACKAGE A1
 WOD
 LOD

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.

PARTIAL SECOND FLOOR PLAN - ELEVATION 'B'

PARTIAL SECOND FLOOR PLAN - ELEVATION 'C'



OPT. SECOND FLOOR PLAN (5 BEDROOM) ELEV. 'A'

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[Symbol]	SUPPLY AIR GRILLE	[Symbol]	6" SUPPLY AIR BOOT ABOVE	[Symbol]	14"x8" RETURN AIR GRILLE	[Symbol]	RETURN AIR STACK ABOVE
[Symbol]	SUPPLY AIR GRILLE 6" BOOT	[Symbol]	SUPPLY AIR STACK FROM 2nd FLOOR	[Symbol]	30"x8" RETURN AIR GRILLE	[Symbol]	RETURN AIR STACK 2nd FLOOR
[Symbol]	SUPPLY AIR BOOT ABOVE	[Symbol]	6" SUPPLY AIR STACK 2nd FLOOR	[Symbol]	FRA-FLOOR RETURN AIR GRILLE	[Symbol]	REDUCER

HVAC LEGEND		
[Symbol]	DESCRIPTION	SYMBOL
[Symbol]	6" SUPPLY AIR BOOT ABOVE	[Symbol]
[Symbol]	SUPPLY AIR STACK FROM 2nd FLOOR	[Symbol]
[Symbol]	6" SUPPLY AIR STACK 2nd FLOOR	[Symbol]
[Symbol]	14"x8" RETURN AIR GRILLE	[Symbol]
[Symbol]	30"x8" RETURN AIR GRILLE	[Symbol]
[Symbol]	FRA-FLOOR RETURN AIR GRILLE	[Symbol]
[Symbol]	RETURN AIR STACK ABOVE	[Symbol]
[Symbol]	RETURN AIR STACK 2nd FLOOR	[Symbol]
[Symbol]	REDUCER	[Symbol]

REVISIONS	
No.	Description
1.	DECK CONDITIONS ADDED
2.	ADDED RETURN #8 TO HALL
3.	REVISED AS PER ARCHITECTURALS
Date	Date
SEPT/2018	NOV/2018
	FEB/2020

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Client
GOLD PARK HOMES
 Project Name
PINE VALLEY & TESTON VAUGHAN, ONTARIO
OPT. 5 BED ROSEDALE
4202

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

3592 sqft