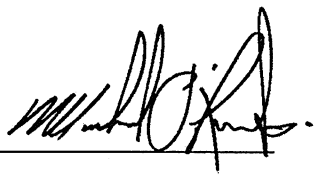


Schedule 1: Designer Information

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 BRAMPTON	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]			
☐ 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: SD-2 Project: ENCORE	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ 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.			
<u>March 7, 2017</u> 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.

SITE NAME: ENCORE BUILDER: GOLD PARK HOMES										DATE: Mar-17 LO# 72729		WINTER NATURAL AIR CHANGE RATE 0.336 SUMMER NATURAL AIR CHANGE RATE 0.112		HEAT LOSS AT °F. 74 HEAT GAIN AT °F. 13		CSA-F280-17 SB-12 PACKAGE A1	
ROOM USE EXP. WALL CLG. HT.		MBR		ENS		TYPE: SD-2		WC		BED-2		BED-3		BATH			
FACTORS		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN			
GRS.WALL AREA		315		99		0		0		108		135		280			
GLAZING		0		0		0		0		0		0		0			
NORTH		20.8 16.0		0		0		0		0		0		0			
EAST		20.8 41.6		0		0		0		30		10		208 416			
SOUTH		20.8 26.0		14		291		349		0		0		10		208 250	
WEST		20.8 41.6		32		665		1331		0		0		0		0	
SKYLT.		36.4 101.6		0		0		0		0		0		0		0	
DOORS		24.7 4.3		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.4 0.8		269		1172		205 85		370 65		0 78		340 60		115 501 88	
NET EXPOSED BSMT WALL ABOVE GR		3.5 0.6		0		0		0		0		0		0		0	
EXPOSED CLG		1.3 0.6		294		388		174 110		138 66		60 75		154 193		91 154	
NO A/TIC EXPOSED CLG		2.7 1.3		0		0		0		0		0		0		0	
EXPOSED FLOOR		2.5 0.4		0		0		0		154 383		67 0		0 0		0 0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0	
SUB TOTAL HT LOSS		2496		799		1540		1466		1110		844		1654			
SUB TOTAL HT GAIN		0.20 0.25		2060		712		35		0.20 0.25		0.20 0.25		0.20 0.25		1106	
LEVEL FACTOR / MULTIPLIER		628		201		387		19		387		279		416			
AIR CHANGE HEAT LOSS		0		0		58		3		119		68		90			
AIR CHANGE HEAT GAIN		0		0		0		0		193		0		0			
DUCT LOSS		0		0		0		0		0		0		0			
DUCT GAIN		2		480		0		0		1		240		0			
HEAT GAIN PEOPLE		240		506		0		0		506		506		0			
HEAT GAIN APPLANCES/LIGHTS		0		0		0		0		0		0		0			
TOTAL HT LOSS BTU/H		3124		4177		1001		94		2119		1389		2070		1555	

ROOM USE	DIN	FACTORS	FOY	WIR	LAUN	KTIFM	ROOM USE	DIN	FACTORS
EXP. WALL	29	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	EXP. WALL	29	LOSS GAIN
CLG. HT.	10						CLG. HT.	10	
GRS.WALL AREA	290						GRS.WALL AREA	290	
GLAZING	LOSS GAIN						GLAZING	LOSS GAIN	
NORTH	0	20.8 16.0					NORTH	0	20.8 16.0
EAST	10	20.8 41.6					EAST	10	20.8 41.6
SOUTH	20	20.8 499					SOUTH	20	20.8 499
WEST	0	20.8 41.6					WEST	0	20.8 41.6
SKYLT.	0	36.4 101.6					SKYLT.	0	36.4 101.6
DOORS	0	24.7 4.3					DOORS	0	24.7 4.3
NET EXPOSED WALL	260	4.4 0.8					NET EXPOSED WALL	260	4.4 0.8
MET EXPOSED BSMT WALL ABOVE GR	0	3.5 0.6					MET EXPOSED BSMT WALL ABOVE GR	0	3.5 0.6
EXPOSED CLG	0	1.3 0.6					EXPOSED CLG	0	1.3 0.6
NO A TTIC EXPOSED CLG	0	2.7 1.3					NO A TTIC EXPOSED CLG	0	2.7 1.3
EXPOSED FLOOR	0	2.5 0.4					EXPOSED FLOOR	0	2.5 0.4
BASEMENT/CRAWL HEAT LOSS	0						BASEMENT/CRAWL HEAT LOSS	0	
SLAB ON GRADE HEAT LOSS	0						SLAB ON GRADE HEAT LOSS	0	
SUBTOTAL HT LOSS	1756						SUBTOTAL HT LOSS	1756	
SUB TOTAL HT GAIN	1114						SUB TOTAL HT GAIN	1114	
LEVEL FACTOR/ / MUL TIPLIER	0.30	0.34					LEVEL FACTOR/ / MUL TIPLIER	0.30	0.34
AIR CHANGE HEAT LOSS	592						AIR CHANGE HEAT LOSS	592	
AIR CHANGE HEAT GAIN	90						AIR CHANGE HEAT GAIN	90	
DUCT LOSS	0						DUCT LOSS	0	
DUCT GAIN	0						DUCT GAIN	0	
HEAT GAIN PEOPLE	240						HEAT GAIN PEOPLE	240	
HEAT GAIN APPLIANCES/LIGHTS	506						HEAT GAIN APPLIANCES/LIGHTS	506	
TOTAL HT LOSS BTU/H	2348						TOTAL HT LOSS BTU/H	2348	
TOTAL HT GAIN x 1.3 BTU/H	2223						TOTAL HT GAIN x 1.3 BTU/H	2223	

TOTAL HEAT GAIN BTU/H:

TONS: 2.05

LOSS DUE TO VENTILATION LOAD BTU/H: 2785

STRUCTURAL HEAT LOSS: 31571

TOTAL COMBINED HEAT LOSS BTU/H: 34356

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

SITE NAME: ENCORE

BUILDER: GOLD PARK HOMES

TYPE: SD-2

DATE: Mar-17

GFA: 1655

LO# 72729

EL296UH045XE38B
FAN SPEED
LOW 0
MEDIUM 650
HIGH 1080

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 43,000

DESIGN CFM = 950
CFM @ 6" E.S.P.

TEMPERATURE RISE 42 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	6	3
R/A	0	0	3	1	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	WIC	BED-2	BED-3	BATH	BED-2	MBR	DIN	KT/FM	KT/FM	KT/FM	DIN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.56	1.00	0.09	1.06	1.39	2.07	1.06	1.56	2.35	1.94	1.94	1.94	2.35	1.94	1.94	1.94	0.30	1.39	2.26	3.22	3.22	3.22	3.22	3.22
CFM PER RUN HEAT	47	30	3	32	42	62	32	47	71	58	58	58	71	58	58	58	9	42	68	97	97	97	97	97
RM GAIN MBH	2.09	1.00	0.05	1.67	2.16	1.55	1.67	2.09	2.22	2.11	2.11	2.11	2.22	2.11	2.11	2.11	0.83	1.22	0.81	0.21	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	82	39	2	66	85	61	66	82	88	83	83	83	88	83	83	83	33	48	24	8	8	8	8	8
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.16	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	0.16
EQUIVALENT LENGTH	150	130	140	160	160	150	170	170	160	130	140	140	160	130	140	140	150	140	160	170	170	170	170	170
TOTAL EFFECTIVE LENGTH	199	165	178	195	212	210	207	225	195	149	165	165	195	149	165	165	183	175	194	201	201	201	201	201
ADJUSTED PRESSURE	0.08	0.1	0.1	0.09	0.08	0.08	0.08	0.07	0.08	0.11	0.1	0.1	0.08	0.11	0.1	0.1	0.09	0.1	0.09	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	5	4	4	5	6	5	5	6	6	5	5	5	6	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	345	344	34	235	214	455	235	240	362	426	426	426	362	426	426	426	103	482	499	495	495	495	495	495
COOLING VELOCITY (ft/min)	602	447	23	485	433	448	485	418	449	609	609	609	449	609	609	609	379	551	176	41	41	41	41	41
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10
TRUNK	A	A	C	C	C	B	C	A	C	A	A	A	C	A	A	A	C	B	B	A	C	C	B	B

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-2	MBR	DIN	KT/FM	KT/FM	KT/FM	DIN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.56	1.00	0.09	1.06	1.39	2.07	1.06	1.56	2.35	1.94	1.94	1.94	2.35	1.94	1.94	1.94	0.30	1.39	2.26	3.22	3.22	3.22	3.22	3.22
CFM PER RUN HEAT	47	30	3	32	42	62	32	47	71	58	58	58	71	58	58	58	9	42	68	97	97	97	97	97
RM GAIN MBH	2.09	1.00	0.05	1.67	2.16	1.55	1.67	2.09	2.22	2.11	2.11	2.11	2.22	2.11	2.11	2.11	0.83	1.22	0.81	0.21	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	82	39	2	66	85	61	66	82	88	83	83	83	88	83	83	83	33	48	24	8	8	8	8	8
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.16	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	0.16
EQUIVALENT LENGTH	150	130	140	160	160	150	170	170	160	130	140	140	160	130	140	140	150	140	160	170	170	170	170	170
TOTAL EFFECTIVE LENGTH	199	165	178	195	212	210	207	225	195	149	165	165	195	149	165	165	183	175	194	201	201	201	201	201
ADJUSTED PRESSURE	0.08	0.1	0.1	0.09	0.08	0.08	0.08	0.07	0.08	0.11	0.1	0.1	0.08	0.11	0.1	0.1	0.09	0.1	0.09	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	5	4	4	5	6	5	5	6	6	5	5	5	6	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	345	344	34	235	214	455	235	240	362	426	426	426	362	426	426	426	103	482	499	495	495	495	495	495
COOLING VELOCITY (ft/min)	602	447	23	485	433	448	485	418	449	609	609	609	449	609	609	609	379	551	176	41	41	41	41	41
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10
TRUNK	A	A	C	C	C	B	C	A	C	A	A	A	C	A	A	A	C	B	B	A	C	C	B	B

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-2	MBR	DIN	KT/FM	KT/FM	KT/FM	DIN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.56	1.00	0.09	1.06	1.39	2.07	1.06	1.56	2.35	1.94	1.94	1.94	2.35	1.94	1.94	1.94	0.30	1.39	2.26	3.22	3.22	3.22	3.22	3.22
CFM PER RUN HEAT	47	30	3	32	42	62	32	47	71	58	58	58	71	58	58	58	9	42	68	97	97	97	97	97
RM GAIN MBH	2.09	1.00	0.05	1.67	2.16	1.55	1.67	2.09	2.22	2.11	2.11	2.11	2.22	2.11	2.11	2.11	0.83	1.22	0.81	0.21	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	82	39	2	66	85	61	66	82	88	83	83	83	88	83	83	83	33	48	24	8	8	8	8	8
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.16	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	0.16
EQUIVALENT LENGTH	150	130	140	160	160	150	170	170	160	130	140	140	160	130	140	140	150	140	160	170	170	170	170	170
TOTAL EFFECTIVE LENGTH	199	165	178	195	212	210	207	225	195	149	165	165	195	149	165	165	183	175	194	201	201	201	201	201
ADJUSTED PRESSURE	0.08	0.1	0.1	0.09	0.08	0.08	0.08	0.07	0.08	0.11	0.1	0.1	0.08	0.11	0.1	0.1	0.09	0.1	0.09	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	5	4	4	5	6	5	5	6	6	5	5	5	6	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	345	344	34	235	214	455	235	240	362	426	426	426	362	426	426	426	103	482	499	495	495	495	495	495
COOLING VELOCITY (ft/min)	602	447	23	485	433	448	485	418	449	609	609	609	449	609	609	609	379	551	176	41	41	41	41	41
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10
TRUNK	A	A	C	C	C	B	C	A	C	A	A	A	C	A	A	A	C	B	B	A	C	C	B	B

TYPE: SD-2
SITE NAME: ENCORE

LO # 72729

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>148.4</u> 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
More than 5 - Part 6	TOTAL	<u>63.6</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>148.4</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>9.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 60H-V+	Location: BSMT
<u>139.0</u> cfm	<u>3.0</u> sones
☒	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
139.0 CFM	X 74 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 60H-V+		
<u>139</u> cfm high	<u>50</u> cfm low	
<u>75</u> % 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:	March-17

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: SD-2

BUILDER: GOLD PARK HOMES

SFQT: 1655

LO# 72729

SITE: ENCORE

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	73

BUILDING DATA

ATTACHMENT:	ATTACHED	# 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):	22245.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 42.0 ft	WIDTH: 24.0 ft	EXPOSED PERIMETER:	91.0 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	29.8
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	-

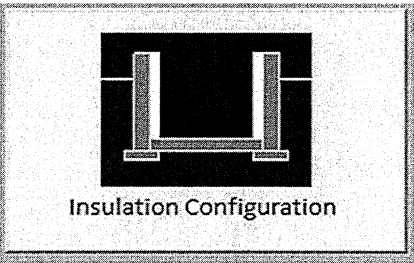
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	12.8	 Insulation Configuration
Floor Width (m):	7.3	
Exposed Perimeter (m):	27.7	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	1.1	
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):		880

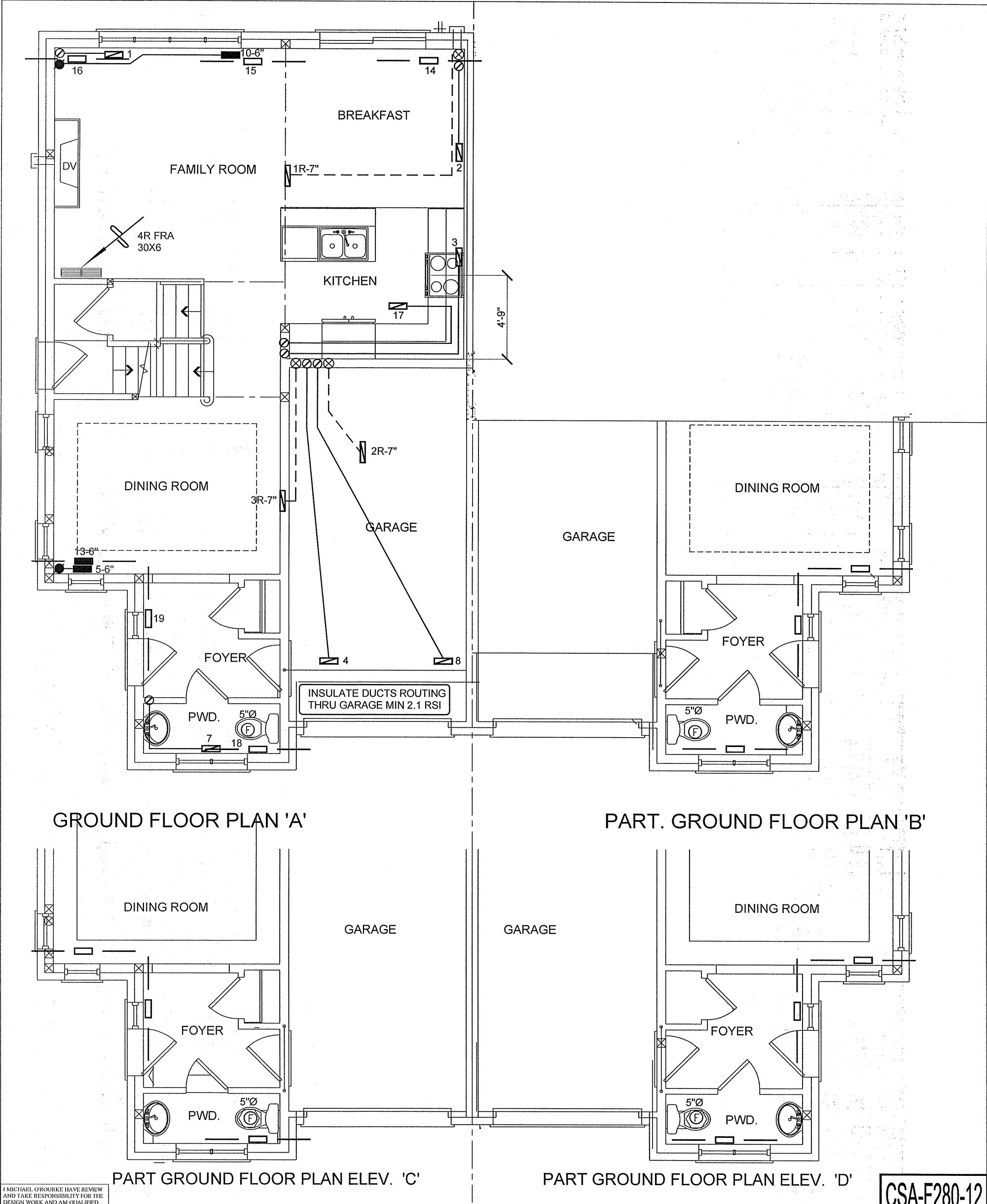
TYPE: SD-2
LO# 72729

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Brampton			
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):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	629.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	839.7 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	65.6	65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.336			
Cooling Air Leakage Rate (ACH/H):	0.112			

TYPE: SD-2
LO# 72729



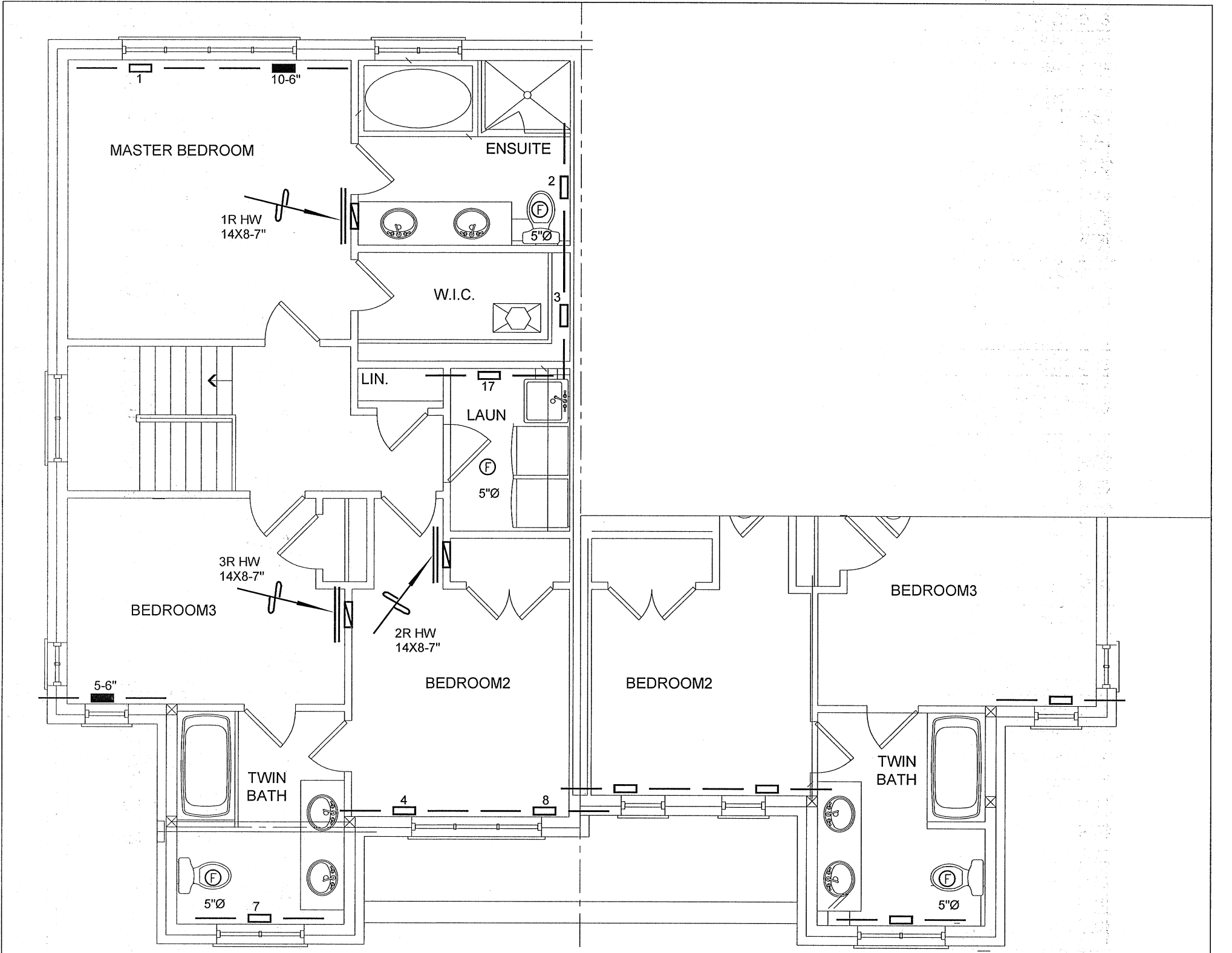
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE:
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	FLOOR 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	REVISIONS	

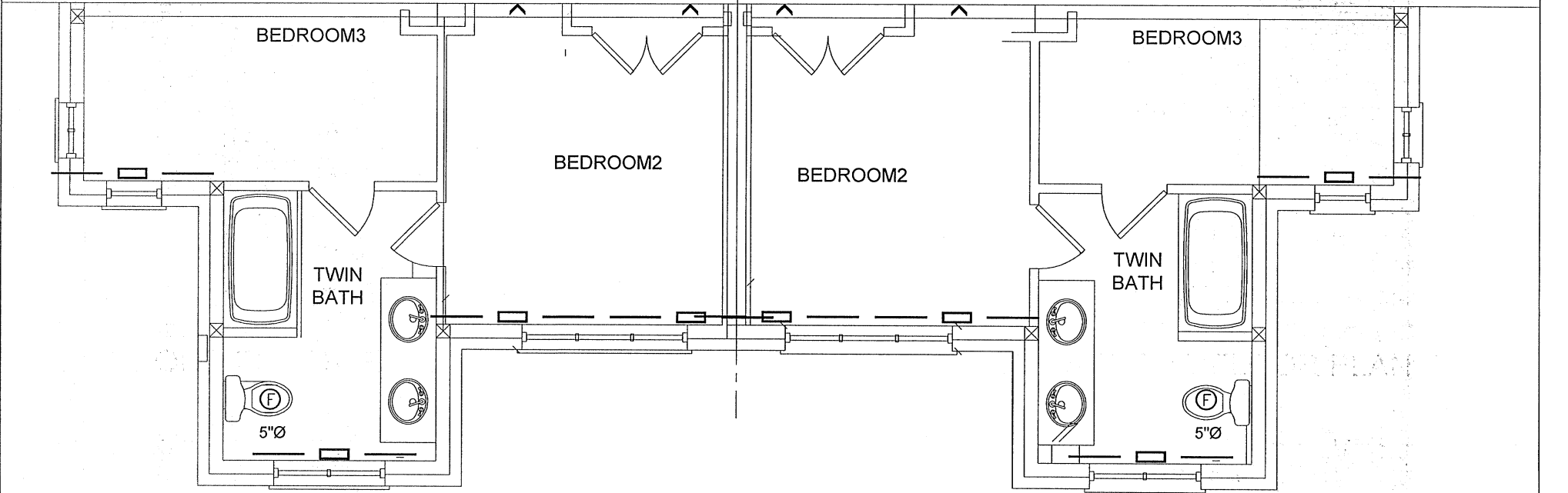
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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
ENCORE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
		BCIN# 19669		
SD-2		LO# 72729		
1655 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.				



SECOND FLOOR PLAN 'A'

PART. SECOND FLOOR PLAN 'B'



PART SECOND FLOOR PLAN ELEV. 'C'

PART SECOND FLOOR PLAN ELEV. 'D'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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	REVISIONS		

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
ENCORE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
SD-2	1655 sqft	LO# 72729		