

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 HAMILTON	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: ROSEWOOD 6 Project: RUSSEL GARDENS	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name) declare that (choose one as appropriate):			
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
February 9, 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: RUSSEL GARDENS				DATE: Feb-18				WINTER NATURAL AIR CHANGE RATE 0.310				HEAT LOSS ΔT °F. 71				CSA-F280-12			
BUILDER: GREENPARK HOMES				TYPE: ROSEWOOD 6				GFA: 3047				LO# 75040				SUMMER NATURAL AIR CHANGE RATE 0.120			
																HEAT GAIN ΔT °F. 16			
ROOM USE				MBR				ENS				WIC				BED-2			
EXP. WALL				36				23				5				32			
CLG. HT.				9				9				9				10			
FACTORS																			
GRS.WALL AREA				324				207				45				320			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
NORTH				19.8 16.8				0 0 0				0 0 0				0 0 0			
EAST				19.8 42.4				0 0 0				0 0 0				39 771 1653			
SOUTH				19.8 25.7				0 0 0				8 158 206				0 0 0			
WEST				19.8 42.4				40 791 1696				16 316 678				0 0 0			
SKYLT.				34.6 103.0				0 0 0				0 0 0				0 0 0			
DOORS				23.5 5.2				0 0 0				0 0 0				0 0 0			
NET EXPOSED WALL				4.1 0.9				284 1177 263				183 759 170				45 187 42			
NET EXPOSED BSMT WALL ABOVE GR				3.3 0.7				0 0 0				0 0 0				0 0 0			
EXPOSED CLG				1.2 0.6				312 372 199				130 155 83				98 117 63			
NO ATTIC EXPOSED CLG				2.6 1.4				0 0 0				0 0 0				27 69 37			
EXPOSED FLOOR				2.4 0.5				0 0 0				0 0 0				224 531 119			
BASEMENT/CRAWL HEAT LOSS								0				0				0			
SLAB ON GRADE HEAT LOSS								0				0				0			
SUBTOTAL HT LOSS				2340				1388				303				2770			
SUB TOTAL HT GAIN				2158				1137				104				2195			
LEVEL FACTOR / MULTIPLIER				0.20 0.26				0.20 0.26				0.20 0.26				0.20 0.26			
AIR CHANGE HEAT LOSS				604				359				78				716			
AIR CHANGE HEAT GAIN				228				120				11				232			
DUCT LOSS				0				0				0				349			
DUCT GAIN				0				0				0				329			
HEAT GAIN PEOPLE				240				2				480				0			
HEAT GAIN APPLIANCES/LIGHTS				620				0				0				620			
TOTAL HT LOSS BTU/H				2944				1747				382				3834			
TOTAL HT GAIN x 1.3 BTU/H				4533				1634				150				4702			

ROOM USE			LV/DN			KT/FM			OFF			LAUN			PWD			FOY												WUB			BAS		
EXP. WALL			20			71			24			23			10			26												0			184		
CLG. HT.			10			10			10			12			10			10												9			9		
FACTORS																																			
GRS.WALL AREA			LOSS GAIN			200			710			240			276			100			260									0			1104		
GLAZING			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN									LOSS GAIN			LOSS GAIN		
NORTH	19.8	16.8	0	0	0	0	0	0	0	0	0	12	237	202	0	0	0	0	0	0	0	16	316	269	4	79	67								
EAST	19.8	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	356	763	0	0	0	0	0	0									
SOUTH	19.8	25.7	30	593	772	0	0	0	20	395	515	0	0	0	8	158	206	0	0	0	0	0	0	8	158	206									
WEST	19.8	42.4	0	0	0	84	1661	3561	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
SKYLT.	34.6	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
DOORS	23.5	5.2	0	0	0	20	469	105	0	0	0	20	469	105	0	0	0	40	938	210	20	469	105	20	469	105									
NET EXPOSED WALL	4.1	0.9	170	705	158	606	2512	562	220	912	204	244	1012	226	92	381	85	202	837	187	-36	-149	-33	0	0	0									
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	552	1845	413									
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
NO ATTIC EXPOSED CLG	2.6	1.4	0	0	0	10	26	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	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																	
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0																	
SUBTOTAL HT LOSS			1298			4667			1307			1718			540			2131																	
SUB TOTAL HT GAIN				930			4242			719			533			291			1160																
LEVEL FACTOR / MULTIPLIER			0.30	0.41		0.30	0.41		0.30	0.41		0.30	0.41		0.30	0.41		0.30	0.41						0.50	0.87									
AIR CHANGE HEAT LOSS				535			1922			538			708			222			878																
AIR CHANGE HEAT GAIN					98			449			76			56			31			123															
DUCT LOSS				0			0			0			0			0			0																
DUCT GAIN				0			0			0			0			0			0																
HEAT GAIN PEOPLE	240		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS				620			620			620			620			0			0																
TOTAL HT LOSS BTU/H				1832			6590			1846			2425			762			3009																
TOTAL HT GAIN x 1.3 BTU/H				2143			6904			1840			1573			419			1668																

SITE NAME: RUSSEL GARDENS

BUILDER: GREENPARK HOMES

TYPE: ROSEWOOD 6

DATE: Feb-18

GFA: 3047

LO# 75040

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 49,642 TOTAL HEAT GAIN 36,292
AIR FLOW RATE CFM 22.78 AIR FLOW RATE CFM 31.16

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

#GOODMAN
GMEC960603BNA 60

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	10	4
R/A	0	0	4	3	1

plenium pressure s/a 0.18
max s/a dif 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

LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
CFM @ .6" E.S.P.

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	BED-4	ENS-2	WIC-2	ENS-3	MBR	ENS-4	KT/FM	LV/DN	KT/FM	KT/FM	OFF	LAUN	PWD	FOY	LAUN	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.47	1.75	0.38	1.92	1.57	1.29	0.78	0.68	0.62	1.47	0.60	2.20	1.83	2.20	2.20	1.85	1.21	0.76	1.50	1.21	4.29	4.29	4.29	4.29
CFM PER RUN HEAT	34	40	9	44	36	29	18	15	14	34	14	50	42	50	50	42	28	17	34	28	98	98	98	98
RM GAIN MBH.	2.27	1.63	0.15	2.35	2.11	2.05	0.41	0.75	0.43	2.27	0.43	2.30	2.14	2.30	2.30	1.84	0.79	0.42	0.83	0.79	0.61	0.61	0.61	0.61
CFM PER RUN COOLING	71	51	5	73	66	64	13	23	13	71	13	72	67	72	72	57	25	13	26	25	19	19	19	19
ADJUSTED PRESSURE	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	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	31	43	36	49	60	35	53	45	45	39	42	37	33	27	25	44	21	34	42	19	35	21	22	38
EQUIVALENT LENGTH	150	160	150	160	150	130	200	160	140	170	200	120	120	130	130	140	140	110	120	160	170	140	100	150
TOTAL EFFECTIVE LENGTH	181	203	186	209	210	165	253	205	185	209	242	157	153	157	155	184	161	144	162	179	205	161	122	188
ADJUSTED PRESSURE	0.1	0.08	0.09	0.08	0.08	0.1	0.07	0.08	0.09	0.08	0.07	0.11	0.11	0.11	0.11	0.09	0.11	0.12	0.11	0.1	0.08	0.1	0.13	0.09
ROUND DUCT SIZE	5	5	4	5	5	5	4	4	4	5	4	5	5	5	5	5	4	4	4	4	6	6	5	6
HEATING VELOCITY (ft/min)	250	294	103	323	264	213	207	172	161	250	161	367	308	367	367	308	321	195	390	321	500	500	720	500
COOLING VELOCITY (ft/min)	521	374	57	536	485	470	149	264	149	521	149	529	492	529	529	419	287	149	298	287	97	97	140	97
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10
TRUNK	C	D	F	B	A	D	B	B	B	C	B	D	D	C	D	A	F	B	A	F	D	C	D	A

RUN #	25	26	27
ROOM NAME	BED-2	BED-3	FOY
RM LOSS MBH.	1.92	1.57	1.50
CFM PER RUN HEAT	44	36	34
RM GAIN MBH.	2.35	2.11	0.83
CFM PER RUN COOLING	73	66	26
ADJUSTED PRESSURE	0.17	0.17	0.17
ACTUAL DUCT LGH.	52	61	51
EQUIVALENT LENGTH	170	130	140
TOTAL EFFECTIVE LENGTH	222	191	191
ADJUSTED PRESSURE	0.08	0.09	0.09
ROUND DUCT SIZE	5	5	4
HEATING VELOCITY (ft/min)	323	264	390
COOLING VELOCITY (ft/min)	536	485	298
OUTLET GRILL SIZE	3X10	3X10	3X10
TRUNK	B	A	A

SUPPLY AIR TRUNK SIZE

TRUNK A							TRUNK G								
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		
TRUNK A	280	0.08	8.7	10	x	8	504	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	446	0.07	10.7	14	x	8	573	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	216	0.08	7.9	8	x	8	486	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	407	0.08	10	12	x	8	611	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	623	0.08	11.7	16	x	8	701	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	511	0.07	11.3	18	x	8	511	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)	
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	1131	0.05	16.5	32	x	8	636
TRUNK Y	780	0.05	14.4	24	x	8	585
TRUNK Z	355	0.05	10.7	14	x	8	456
DROP	1131	0.05	16.5	24	x	10	679

RETURN AIR #	1	2	3	4	5	6	7									BR
AIR VOLUME	175	155	135	85	135	135	135	0	0	0	0	0	0	0	0	176
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
ACTUAL DUCT LGH.	34	46	58	60	34	32	46	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	145	160	235	195	250	245	240	0	0	0	0	0	0	0	0	175
TOTAL EFFECTIVE LH	179	206	293	255	284	277	286	1	1	1	1	1	1	1	1	189
ADJUSTED PRESSURE	0.08	0.07	0.05	0.06	0.05	0.05	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08
ROUND DUCT SIZE	7.3	7.2	7.5	6	7.5	7.5	7.5	0	0	0	0	0	0	0	0	7.3
INLET GRILL SIZE	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
INLET GRILL SIZE	14	14	14	14	14	14	14	0	0	0	0	0	0	0	0	14

TYPE: ROSEWOOD 6
SITE NAME: RUSSEL GARDENS

LO # 75040

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>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</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
TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>51.8</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 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 71 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 60H-V+	
<u>139</u> cfm high	<u>50</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒	HVI Approved

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER:	
GREENPARK 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:	February-18

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** ROSEWOOD 6**BUILDER:** GREENPARK HOMES**SFQT:** 3047**LO#** 75040**SITE:** RUSSEL GARDENS**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	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):	40933.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 59.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	184.0 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	-

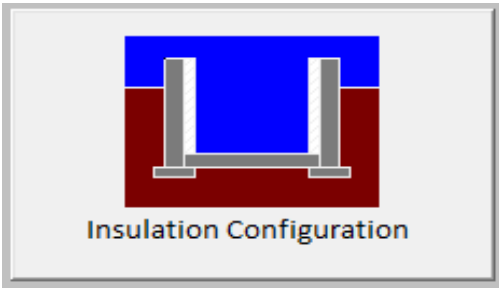
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

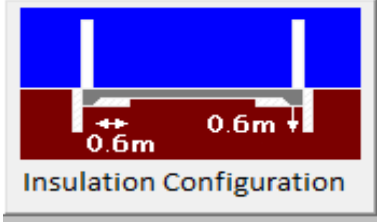
Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.0	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.6	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1751

TYPE: ROSEWOOD 6
LO# 75040

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	0.0	
Width (m):	0.0	
Exposed Perimeter (m):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		0

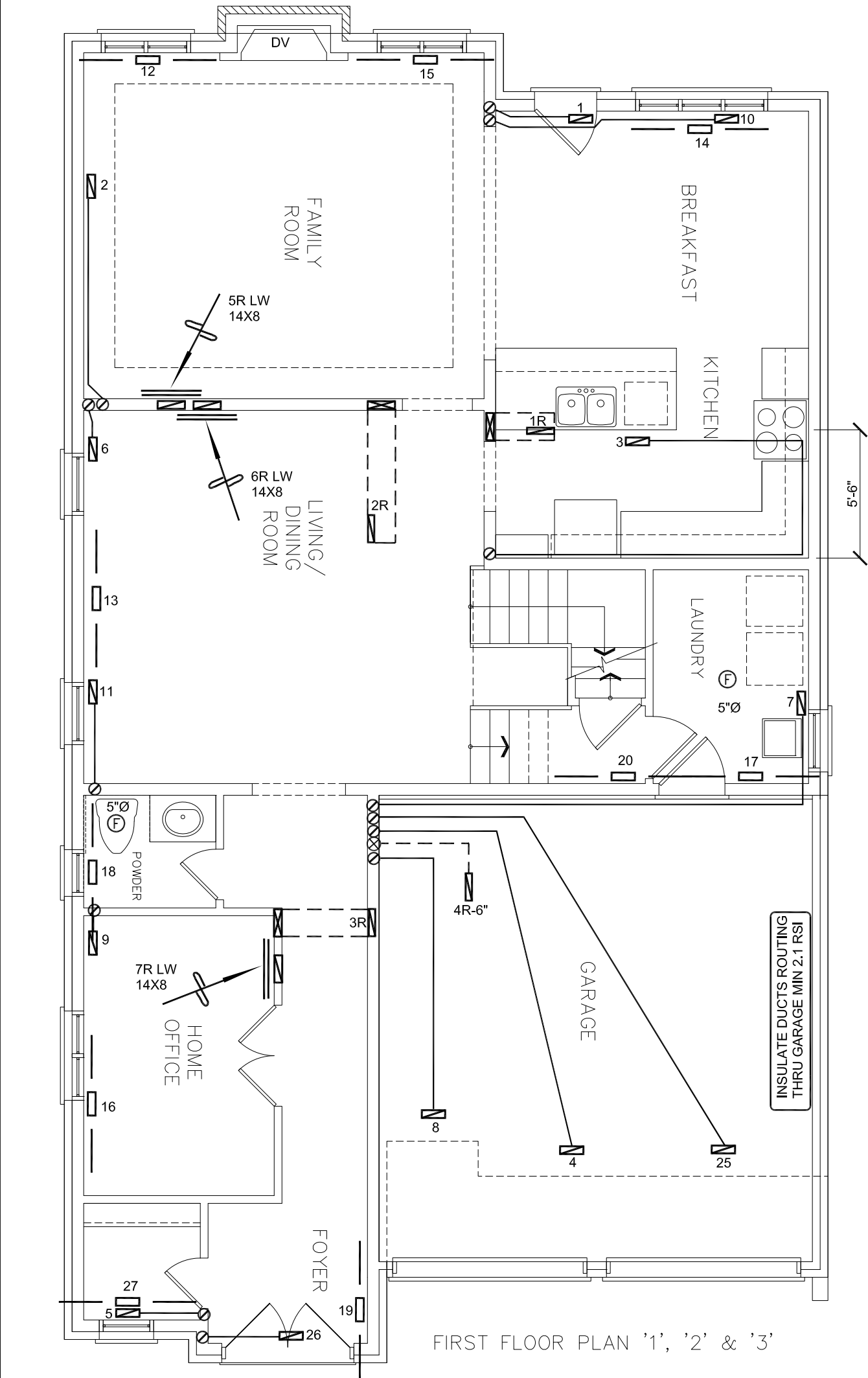
TYPE: ROSEWOOD 6
LO# 75040

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1159.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1545.1 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):	0.310			
Cooling Air Leakage Rate (ACH/H):	0.120			

TYPE: ROSEWOOD 6
LO# 75040



FIRST FLOOR PLAN '1', '2' & '3'

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.

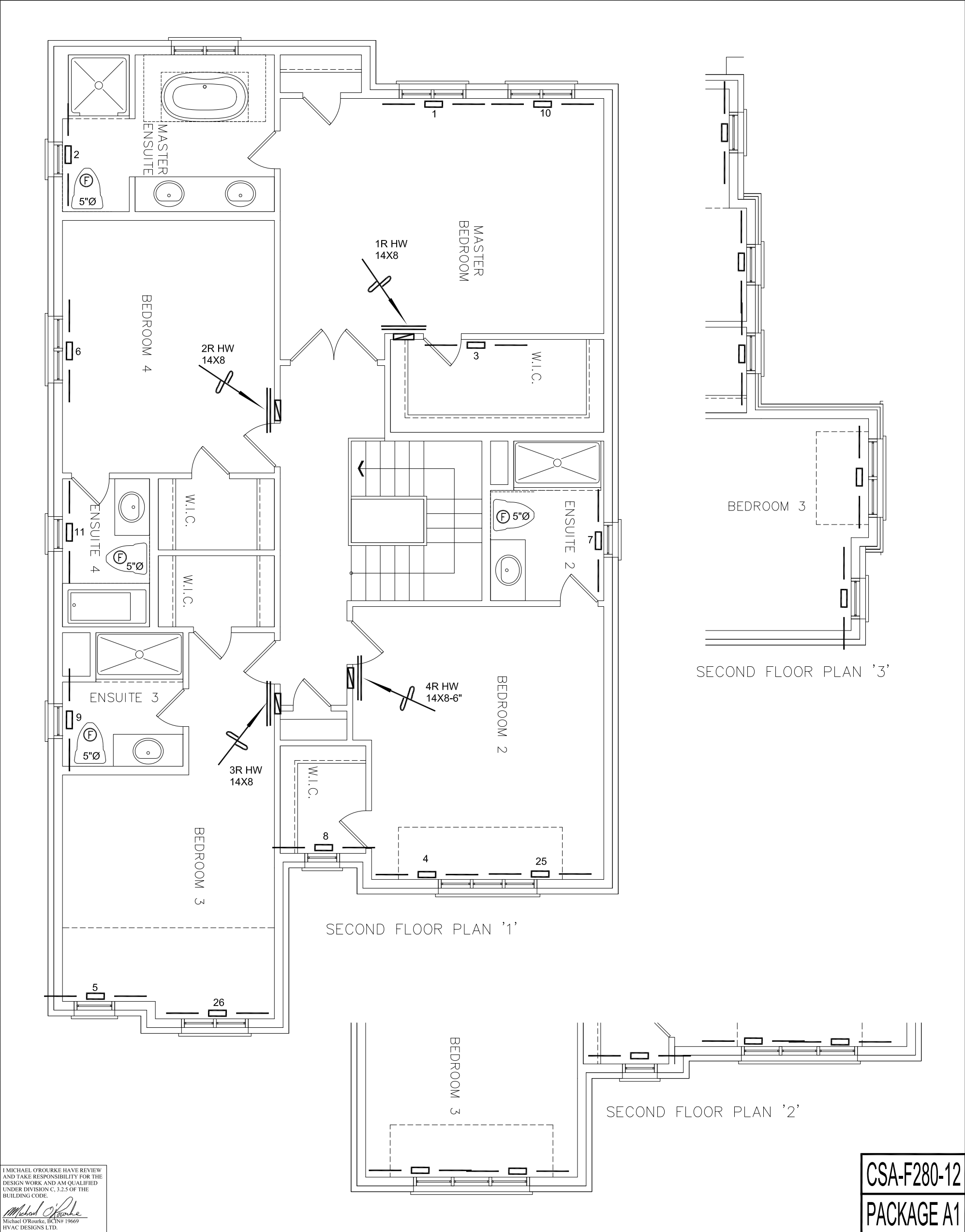
CSA-F280-12

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	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 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	
GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JULY/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 6 3047 sqft			BCIN# 19669	
			LO#	75040



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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.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	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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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JULY/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 6 3047 sqft			BCIN# 19669	
			LO#	75040