

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES
DATE: JUN-17
LO# 75027
GFA: 2264
TYPE: HIGHGROVE SE
WINTER NATURAL AIR CHANGE RATE 0.409
HEAT LOSS AT °F. 71
HEAT GAIN AT °F. 15
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WOD	BAS
GRS.WALL AREA	15	9	135	189	63	90	306	126	54		
GLAZING	LOSS GAIN		LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN		
NORTH	19.8	16.5	0	0	0	0	0	0	0		
EAST	19.8	42.1	0	0	0	0	0	0	0		
SOUTH	19.8	25.5	0	0	0	0	0	0	0		
WEST	19.8	42.1	31	257	547	0	0	0	0		
SKYL.	34.6	102.5	0	0	0	0	0	0	0		
DOORS	23.6	4.9	0	0	0	0	0	0	0		
NET EXPOSED WALL	4.1	0.9	104	730	153	63	261	55	60	439	92
NET EXPOSED SMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	285	340	177	110	131	68	70	83	43
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	0
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	1384		1118	769	345	1390	2472	1085	441		
SUB TOTAL HT GAIN	1573										
LEVEL FACTOR / MULTIPLIER	0.20	0.37	0.20	0.37	0.20	0.37	0.20	0.37	0.20	0.37	0.20
AIR CHANGE HEAT LOSS	507		410	88	126	509	906	398	161		
AIR CHANGE HEAT GAIN	181										
DUCT LOSS	0		0	0	0	190	338	0	0		
DUCT GAIN	240		0	0	0	250	349	0	0		
HEAT GAIN PEOPLE	240		0	0	0	1	240	1	240		
HEAT GAIN APPLIANCES/LIGHTS	598		0	0	0	598	598	598	598		
TOTAL HT LOSS BTU/H	1891		1527	1114	471	2090	3716	1483	602		
TOTAL HT GAIN x 1.3 BTU/H	3681										

ROOM USE	EXP. WALL	CLG. HT.	MR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WOD	BAS
GRS.WALL AREA	15	9	135	189	63	90	306	126	54		
GLAZING	LOSS GAIN		LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN		
NORTH	19.8	16.5	0	0	0	0	0	0	0		
EAST	19.8	42.1	29	573	1221	0	0	0	0		
SOUTH	19.8	25.5	33	652	840	0	0	0	0		
WEST	19.8	42.1	0	0	0	0	0	0	0		
SKYL.	34.6	102.5	0	0	0	0	0	0	0		
DOORS	23.5	4.9	20	459	98	0	0	0	0		
NET EXPOSED WALL	4.1	0.9	618	2147	450	402	1667	349	25	586	123
NET EXPOSED SMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	0
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	3842		3842	2610	3604	418	153	266	1121		
SUB TOTAL HT GAIN											
LEVEL FACTOR / MULTIPLIER	0.30	0.53	0.30	0.53	0.30	0.53	0.20	0.37	0.30	0.53	0.20
AIR CHANGE HEAT LOSS	2025		2025	1899	493	153	153	241	591		
AIR CHANGE HEAT GAIN	300		300	0	0	57	77	0	0		
DUCT LOSS	0		0	0	0	0	0	0	0		
DUCT GAIN	240		0	0	0	0	0	0	0		
HEAT GAIN PEOPLE	240		0	0	0	1	240	1	240		
HEAT GAIN APPLIANCES/LIGHTS	598		598	598	598	598	598	598	598		
TOTAL HT LOSS BTU/H	5867		4559	5503	6599	629	1099	697	1712		
TOTAL HT GAIN x 1.3 BTU/H											

TOTAL HEAT GAIN BTU/H: 30862 TONS: 2.57 LOSS DUE TO VENTILATION LOAD BTU/H: 2650 STRUCTURAL HEAT LOSS: 40373 TOTAL COMBINED HEAT LOSS BTU/H: 43022

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

TYPE: HIGHGROVE 5E

DATE: Jul-17

GFA: 2264 LO# 75027

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 40,373
AIR FLOW RATE CFM 28.01furnace 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
FAN SPEED LOW
MEDIUM HIGHAFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600
DESIGN CFM = 1131
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	5
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR		LVDN	LVDN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	0.95	1.53	0.47	1.04	1.86	1.48	0.60	1.04	1.86	0.95		2.93	2.93	1.83	1.83	1.83	0.63	0.70	1.71	2.84	2.84	2.84	2.84	2.84
CFM PER RUN HEAT	26	43	13	29	52	42	17	29	52	26		82	82	51	51	51	18	20	48	79	79	79	79	79
RM GAIN MBH	1.86	1.15	0.15	1.81	2.54	2.18	0.41	1.81	2.54	1.86		2.33	2.33	2.37	2.37	2.37	1.11	0.40	0.37	0.18	0.18	0.18	0.18	0.18
CFM PER RUN COOLING	68	42	6	66	93	80	15	66	93	68		85	85	87	87	87	41	15	13	7	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17		0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	42	46	36	46	47	22	28	52	43	51		18	27	24	33	40	37	8	32	29	29	29	29	29
EQUIVALENT LENGTH	140	170	160	120	140	150	140	130	170	160		140	90	120	130	140	130	120	140	140	80	80	90	130
TOTAL EFFECTIVE LENGTH	182	216	196	166	187	172	168	182	213	211		158	117	144	163	180	167	128	172	162	109	101	140	140
ADJUSTED PRESSURE	0.09	0.08	0.09	0.1	0.09	0.1	0.1	0.09	0.08	0.08		0.1	0.14	0.11	0.1	0.09	0.1	0.13	0.1	0.11	0.16	0.17	0.12	0.12
ROUND DUCT SIZE	5	4	4	5	6	5	4	5	6	5		5	5	5	5	5	4	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	191	493	149	213	265	308	195	213	265	191		602	602	374	374	374	207	229	551	580	580	580	580	580
COOLING VELOCITY (ft/min)	499	482	69	485	474	587	172	485	474	499		624	624	639	639	639	470	172	149	51	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	D	C	B	D	D	C	A		C	C	A	A	A	D	D	C	A	B	B	B	D

25	ROOM NAME	BAS
284	RM LOSS MBH	2.84
79	CFM PER RUN HEAT	79
0.18	RM GAIN MBH	0.18
0.17	CFM PER RUN COOLING	0.17
21	ADJUSTED PRESSURE	0.17
130	ACTUAL DUCT LGH	21
151	EQUIVALENT LENGTH	130
0.11	TOTAL EFFECTIVE LENGTH	151
5	ADJUSTED PRESSURE	0.11
580	ROUND DUCT SIZE	5
51	HEATING VELOCITY (ft/min)	580
3X10	COOLING VELOCITY (ft/min)	51
C	OUTLET GRILL SIZE	3X10
TRUNK		C

SUPPLY AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	327	0.08	9.2	10	8	589	0	0.00	0	0	0	0.00	0	0	0
TRUNK B	540	0.08	11.1	14	8	694	0	0.00	0	0	0	0.00	0	0	0
TRUNK C	395	0.08	9.9	12	8	593	0	0.00	0	0	0	0.00	0	0	0
TRUNK D	567	0.08	11.5	16	8	660	0	0.00	0	0	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	0	0	0	0.00	0	0	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	0	0	0.00	0	0	0	0.00	0	0	0
RETURN AIR #	1	2	3	4	5	6	0	0	0	0	0	0	0	0	0
AIR VOLUME	120	85	85	175	300	180	0	0	0	0	0	0	0	0	0
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
ACTUAL DUCT LGH	47	52	43	40	22	24	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	145	165	160	155	150	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	222	197	208	200	177	174	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.08	0.07	0.07	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
ROUND DUCT SIZE	6.6	5.6	5.8	7.5	8.9	7.2	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	14	14	0	0	0	0	0	0	0	0	0

TYPE: HIGHGROVE 5E
SITE NAME: RUSSEL GARDENS

LO # 75027

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	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm	42.4 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	159.0 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	159	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	20.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 60H-V+	Location: BSMT
139.0 cfm	3.0 sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
139.0 CFM	71 F	X	0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
139 cfm high	50 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:	
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:	July-17

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** HIGHGROVE 5E**BUILDER:** GREENPARK HOMES**SFQT:** 2264**LO#** 75027**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

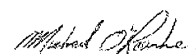
ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	4.55	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	30676.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 52.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	131.0 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	-

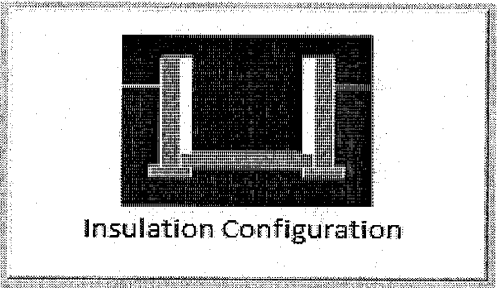
INDIVIDUAL BCIN: 19669

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):	15.8	 Insulation Configuration
Floor Width (m):	7.9	
Exposed Perimeter (m):	39.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.3	
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):		1238

TYPE: HIGHGROVE 5E
LO# 75027

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:	Semi		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	868.6		
Air Leakage/Ventilation			
Air Tightness Type:	Average (1946-1960) (4.55 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1475.8 cm ²	
	4.55	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):	0.409		
Cooling Air Leakage Rate (ACH/H):	0.155		

TYPE: HIGHGROVE 5E
LO# 75027

PART. BASEMENT
PLAN W.O.D
CONDITION (4R TO
7R MAX.)

PART. BASEMENT
PLAN W.O.D
CONDITION (8R OR
MORE)

A-10X8

B-14X8

X-30X8
24X10

D-16X8

Y-12X8

C-12X8

UNFINISHED
BASEMENT

UNECAVATED

BASEMENT PLAN

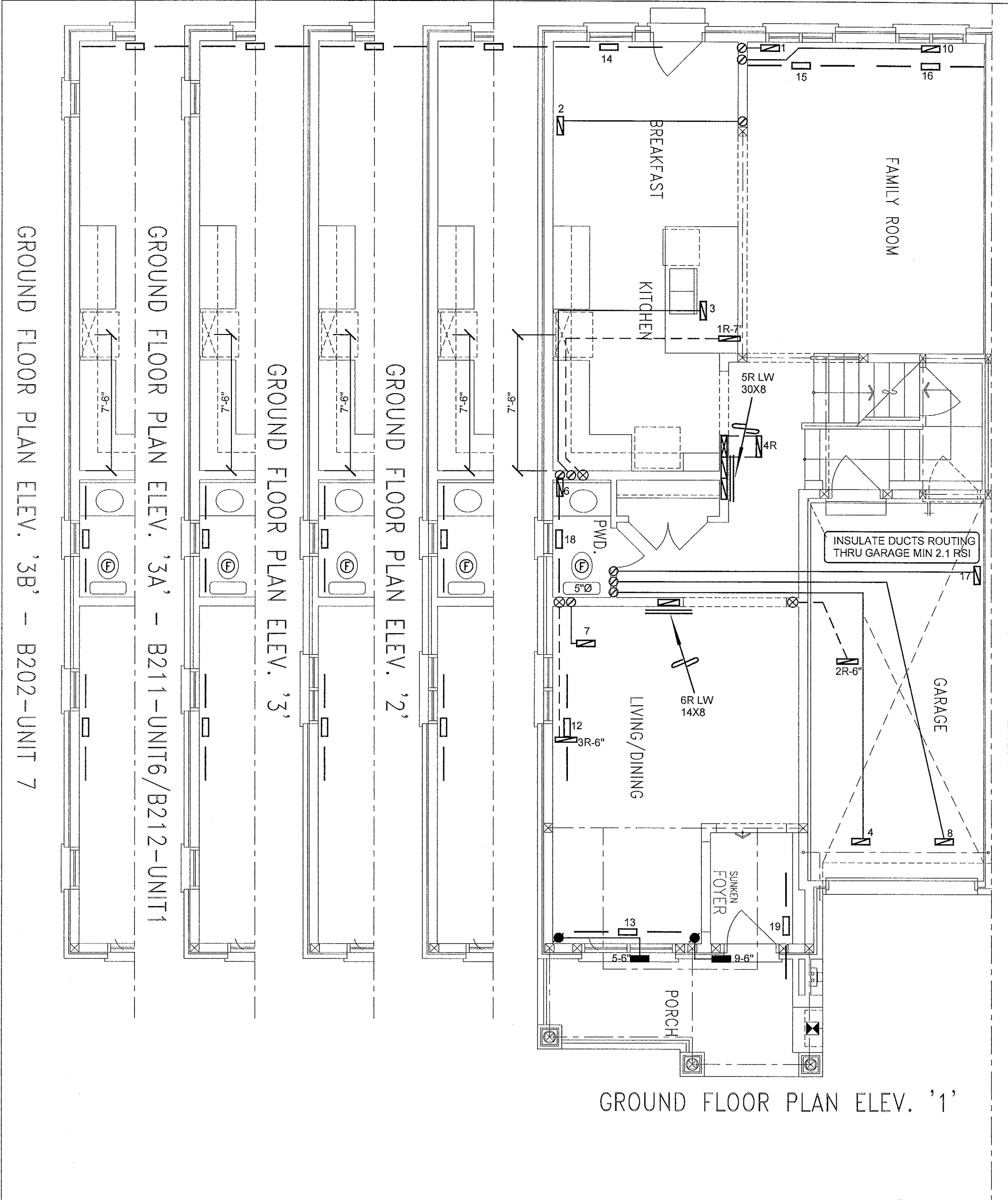
I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C.3.2.5 OF THE
BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	Date	

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Client GREENPARK HOMES		 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.	HEAT LOSS 43022 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			MAKE GOODMAN		3RD FLOOR				Date JULY/2017	
			MODEL GMEC960603BNA		2ND FLOOR 11 4 3					
			INPUT 60 MBTU/H		1ST FLOOR 7 2 2					
HIGHGROVE 5E 2264 sqft			OUTPUT 57.6 MBTU/H		BASEMENT 5 1 0				Scale 3/16" = 1'-0"	
		COOLING 2.5 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				BCIN# 19669		
		FAN SPEED 1131 cfm @ 0.6" w.c.						LO# 75027		



GROUND FLOOR PLAN ELEV. '3B' - B202-UNIT 7

GROUND FLOOR PLAN ELEV. '3A' - B211-UNIT6/B212-UNIT1

GROUND FLOOR PLAN ELEV. '3'

GROUND FLOOR PLAN ELEV. '2'

GROUND FLOOR PLAN ELEV. '1'

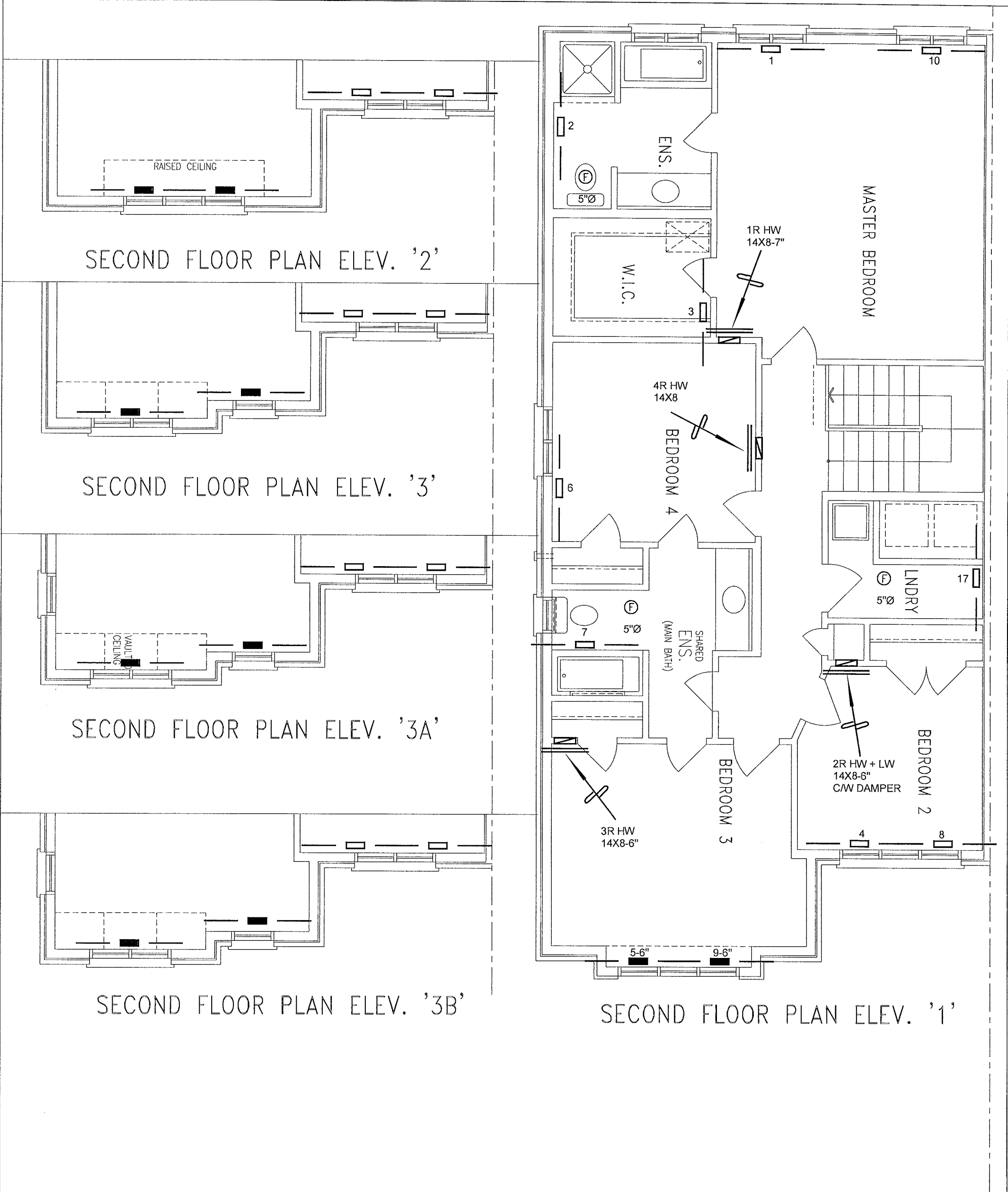
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	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 GREENPARK HOMES		 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 FIRST FLOOR HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			Date JULY/2017	
HIGHGROVE 5E 2264 sqft			Scale 3/16" = 1'-0"	BCIN# 19669
			LO# 75027	



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 GREENPARK HOMES		 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 SECOND FLOOR HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			Date JULY/2017	
HIGHGROVE 5E 2264 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO#	75027