

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES
TYPE: HIGHGROVE 6E
DATE: Jul-17
LO# 75030
GFA: 2465
WINTER NATURAL AIR CHANGE RATE 0.408
HEAT LOSS AT °F. 71
HEAT GAIN AT °F. 14
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	MBR	ENS	BED-2	BED-3	BED-4	BATH	ENS-3	WOD	BAS
EXP. WALL	31	13	37	21	10	4	33	31	172
CLG. HT.	9	9	9	9	9	9	9	9	9
FACTORS									
GRS.WALL AREA	279	117	333	189	90	36	297	279	1218
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0	0	0	11	0	0	0	0	0
EAST	30	14	0	0	0	0	0	0	0
SOUTH	593	277	833	806	0	178	227	6	0
WEST	41.8	0	0	0	0	9	0	119	151
SKYLT.	41.8	0	0	0	20	0	395	0	0
DOORS	102.0	0	0	0	0	0	0	0	8
NET EXPOSED WALL	4.1	0	0	0	0	0	0	0	20
NET EXPOSED BSMT WALL ABOVE GR	0.8	1032	1248	167	692	27	112	277	1148
EXPOSED CLG	3.3	0	0	0	0	0	0	0	224
NO ATTIC EXPOSED CLG	0.6	240	286	145	155	186	94	99	118
EXPOSED FLOOR	2.6	0	0	0	0	0	0	0	60
BASEMENT/CRAWL HEAT LOSS	2.4	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	1911	1174	2233	1391	1077	451	1662	720	1218
SUB TOTAL HT GAIN	1602	819	1229	908	1011	330	1121	269	642
LEVEL FACTOR / MULTIPLIER	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.50	1.09
AIR CHANGE HEAT LOSS	683	419	797	497	385	161	593	837	8837
AIR CHANGE HEAT GAIN	182	93	139	103	115	37	127	0	0
DUCT LOSS	0	159	0	0	146	0	0	0	0
DUCT GAIN	0	91	0	0	183	0	0	0	0
HEAT GAIN PEOPLE	2	0	1	240	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	466	0	466	466	466	0	0	0	0
TOTAL HT LOSS BTU/H	2594	1753	3031	1887	1608	612	2255	720	16223
TOTAL HT GAIN x 1.3 BTU/H	3548	1304	2596	1393	2619	478	1623	349	1574

ROOM USE	OFF	DIN	KIT/FM	LAUN	WIR	FOY	MUD	WOD	BAS
EXP. WALL	34	22	69	18	5	17	6	31	172
CLG. HT.	12	10	10	12	9	11	11	9	9
FACTORS									
GRS.WALL AREA	408	220	690	216	45	187	86	279	1218
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0	13	0	0	0	0	0	0	0
EAST	0	0	45	9	0	0	0	0	0
SOUTH	0	0	21	0	9	0	0	6	0
WEST	47	13	415	0	178	0	0	119	151
SKYLT.	1966	257	544	0	0	0	0	0	8
DOORS	0	0	0	0	0	0	0	0	335
NET EXPOSED WALL	4.1	0	20	0	0	42	985	0	20
NET EXPOSED BSMT WALL ABOVE GR	0.8	194	604	207	36	145	193	145	469
EXPOSED CLG	3.3	0	0	0	0	0	0	0	92
NO ATTIC EXPOSED CLG	0.6	138	165	0	45	0	0	0	0
EXPOSED FLOOR	2.6	0	0	0	0	0	0	0	216
BASEMENT/CRAWL HEAT LOSS	2.4	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	2590	1318	4278	1036	381	1586	680	720	1218
SUB TOTAL HT GAIN	2342	912	2992	544	283	310	129	269	642
LEVEL FACTOR / MULTIPLIER	0.30	0.45	0.30	0.45	0.30	0.45	0.30	0.50	1.09
AIR CHANGE HEAT LOSS	1159	590	1914	464	170	710	295	837	8837
AIR CHANGE HEAT GAIN	266	103	339	62	32	35	15	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	466	466	466	466	466	0	466	0	466
TOTAL HT LOSS BTU/H	3749	1908	6192	1500	551	2296	955	720	16223
TOTAL HT GAIN x 1.3 BTU/H	3995	1926	4937	1393	410	449	792	349	1574

SITE NAME: RUSSEL GARDENS
BUILDING: GREENPARK HOMES

TYPE: HIGHGROVE 6E DATE: Jul-17
GFA: 2465 LO# 75030

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 47,840 TOTAL HEAT GAIN 30,323
AIR FLOW RATE CFM 23.64 AIR FLOW RATE CFM 37.3

#GOODMAN
GMEC960603BNA 60
FAN SPEED LOW
MEDIUM HIGH
DESIGN CFM = 1131
CFM @ 8" E.S.P.
AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	10	4
R/A	0	0	4	3	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'0" unless noted otherwise on layout.

ROOM #	1	2	3	4	5	6	7	8	10	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BED-4	BATH	ENS-3	MBR	OFF	DIN	KIT/FM	KIT/FM	KIT/FM	LAUN	WIR	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.30	1.75	3.03	1.89	1.89	1.61	0.61	2.26	1.30	1.87	1.91	2.06	2.06	2.06	1.50	0.55	2.30	0.96	4.24	4.24	4.24	4.24
CFM PER RUN HEAT	72	41	72	45	45	38	14	53	31	44	45	49	49	49	35	13	54	23	100	100	100	100
RM GAIN MBH	1.77	1.30	2.70	2.23	2.23	2.62	0.48	1.62	1.77	2.00	1.93	1.65	1.65	1.65	1.39	0.41	0.45	0.79	0.48	0.48	0.48	0.48
CFM PER RUN COOLING	66	49	101	83	83	98	18	61	66	75	72	61	61	61	52	15	17	30	18	18	18	18
ADJUSTED PRESSURE	0.17	0.17	0.16	0.16	0.16	0.16	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
EQUIVALENT LENGTH	45	51	24	39	35	35	34	43	39	43	31	11	12	12	37	34	22	31	37	21	7	25
TOTAL EFFECTIVE LENGTH	140	160	150	180	180	150	170	160	140	100	130	120	130	130	150	130	160	170	120	100	80	110
ADJUSTED PRESSURE	0.09	0.08	0.09	0.07	0.07	0.09	0.08	0.08	0.1	0.12	0.11	0.13	0.12	0.12	0.09	0.1	0.09	0.09	0.1	0.13	0.19	0.12
ROUND DUCT SIZE	5	5	6	6	6	6	4	5	5	5	5	5	4	4	4	4	4	4	6	5	5	5
HEATING VELOCITY (ft/min)	228	301	367	229	194	161	389	323	228	323	330	562	562	562	402	149	396	264	510	734	734	734
COOLING VELOCITY (ft/min)	485	360	515	423	500	207	448	551	485	529	529	700	700	700	597	172	125	344	92	132	132	132
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10
TRUNK	B	A	D	A	A	A	A	B	D	C	A	D	D	B	A	C	C	A	C	B	D	B

ROOM #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
ROOM NAME	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
RM LOSS MBH	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
CFM PER RUN HEAT	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
RM GAIN MBH	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CFM PER RUN COOLING	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
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	0.17	0.17
EQUIVALENT LENGTH	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
TOTAL EFFECTIVE LENGTH	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
ADJUSTED PRESSURE	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
ROUND DUCT SIZE	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323
COOLING VELOCITY (ft/min)	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

SUPPLY AIR TRUNK SIZE												RETURN 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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)				
TRUNK A	241	0.07	8.5	8	TRUNK G	0	0.00	0	0	TRUNK O	0	0.05	0	0	TRUNK U	0	0.05	0	0				
TRUNK B	574	0.07	11.8	8	TRUNK H	0	0.00	0	8	TRUNK P	0	0.05	0	0	TRUNK V	0	0.05	0	0				
TRUNK C	255	0.09	8.2	8	TRUNK I	0	0.00	0	8	TRUNK Q	0	0.05	0	0	TRUNK W	0	0.05	0	0				
TRUNK D	1130	0.07	15.2	8	TRUNK J	0	0.00	0	8	TRUNK R	0	0.05	0	0	TRUNK X	1131	0.05	16.5	32				
TRUNK E	0	0.00	0	8	TRUNK K	0	0.00	0	8	TRUNK S	0	0.05	0	0	TRUNK Y	270	0.05	12	12				
TRUNK F	0	0.00	0	8	TRUNK L	0	0.00	0	8	TRUNK T	0	0.05	0	0	TRUNK Z	480	0.05	16	16				
															DROP	1131	0.05	24	24				
RETURN AIR #												BR											
AIR VOLUME												246											
PLENUM PRESSURE												0.15											
ACTUAL DUCT LGH.												14											
EQUIVALENT LENGTH												135											
TOTAL EFFECTIVE LH												149											
ADJUSTED PRESSURE												0.10											
ROUND DUCT SIZE												7.8											
INLET GRILL SIZE												8											
INLET GRILL SIZE												X											
												24											

TYPE: HIGHGROVE 6E
SITE NAME: RUSSEL GARDENS

LO # 75030

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>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>180.2</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>180.2</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>41.2</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
BATH	QTXEN050C	50	☒	0.3
W/R	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	☒ 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 6E**BUILDER:** GREENPARK HOMES**SFQT:** 2465**LO#** 75030**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)	74

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):	34205.0	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: 53.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	172.0 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	-

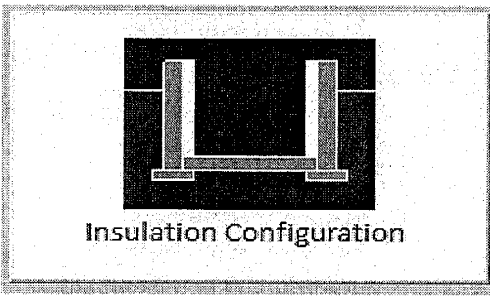
INDIVIDUAL BCIN: 19669

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):	16.2	 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):	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):		1659

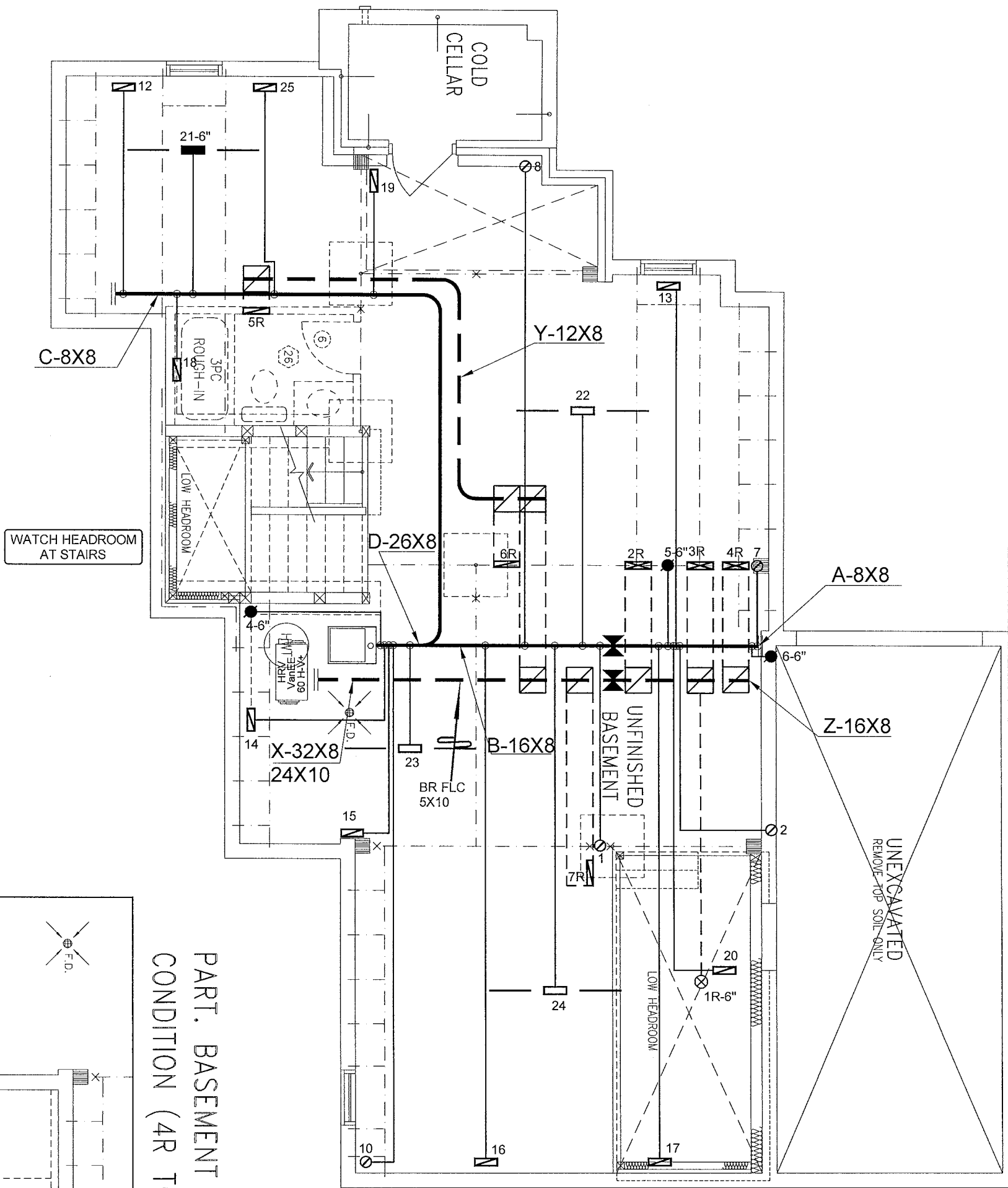
TYPE: HIGHGROVE 6E
LO# 75030

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):	968.6			
Air Leakage/Ventilation				
Air Tightness Type:	Average (1946-1960) (4.55 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1645.6 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):	0.146			

TYPE: HIGHGROVE 6E
LO# 75030



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

BASEMENT PLAN '3'

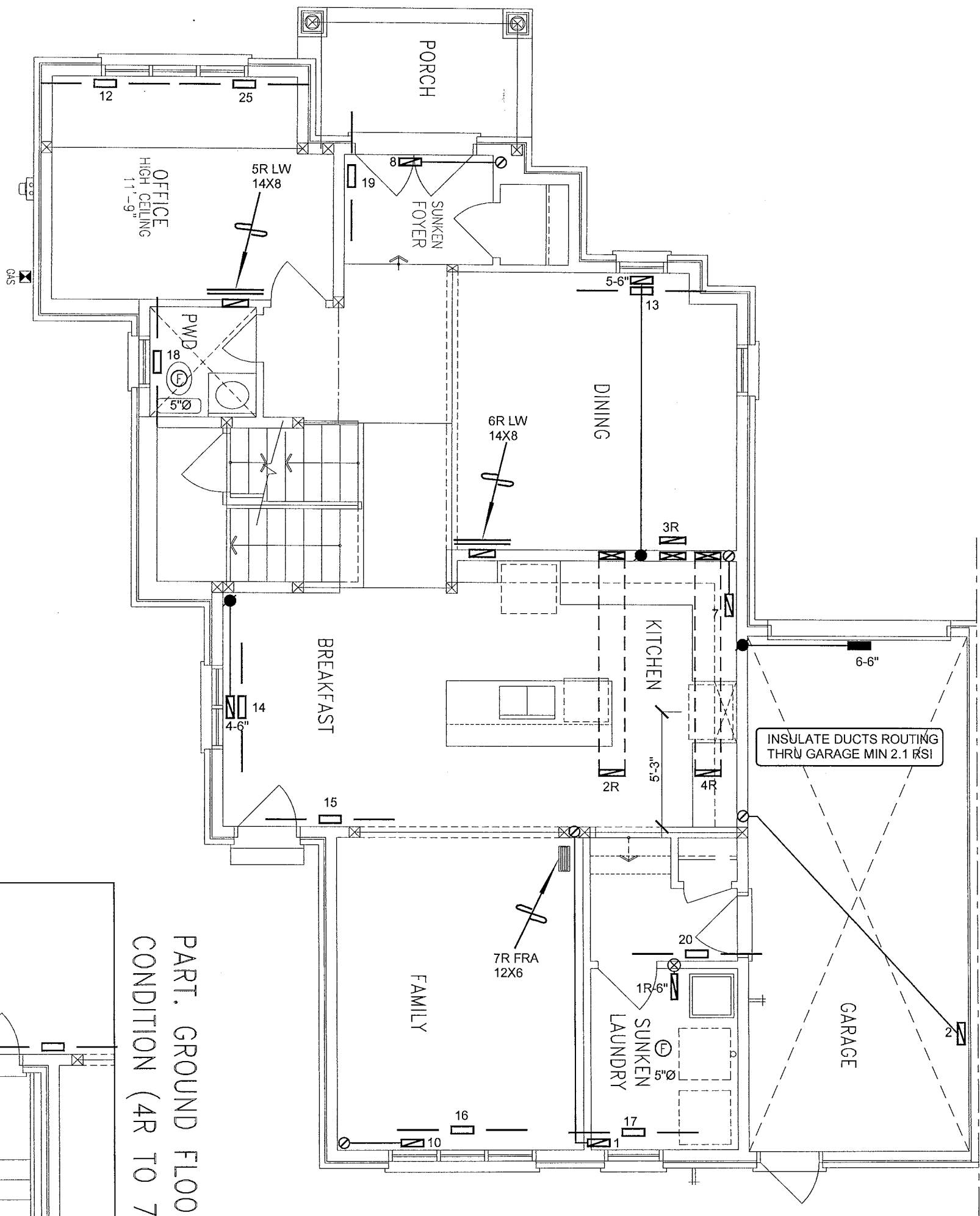
I MICHAEL O'Rourke HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	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		HVACDESIGNS LTD. 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	HEAT LOSS 50490 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title		
GREENPARK HOMES			MAKE GOODMAN		3RD FLOOR				BASEMENT HEATING LAYOUT		
Project Name			MODEL GMEC960603BNA-60		2ND FLOOR		8	4	3		
RUSSEL GARDENS HAMILTON, ONTARIO			INPUT 60 MBTU/H		1ST FLOOR		10	3	3		
			OUTPUT 57.6 MBTU/H		BASEMENT		4	1	0	Date JUL/2017	
		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						Scale 3/16" = 1'-0"	
HIGHGROVE 6E 2465 sqft		FAN SPEED 1131 cfm @ 0.5" w.c.								BCIN# 19669	
										LO# 75030	



GROUND FLOOR PLAN '3'

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

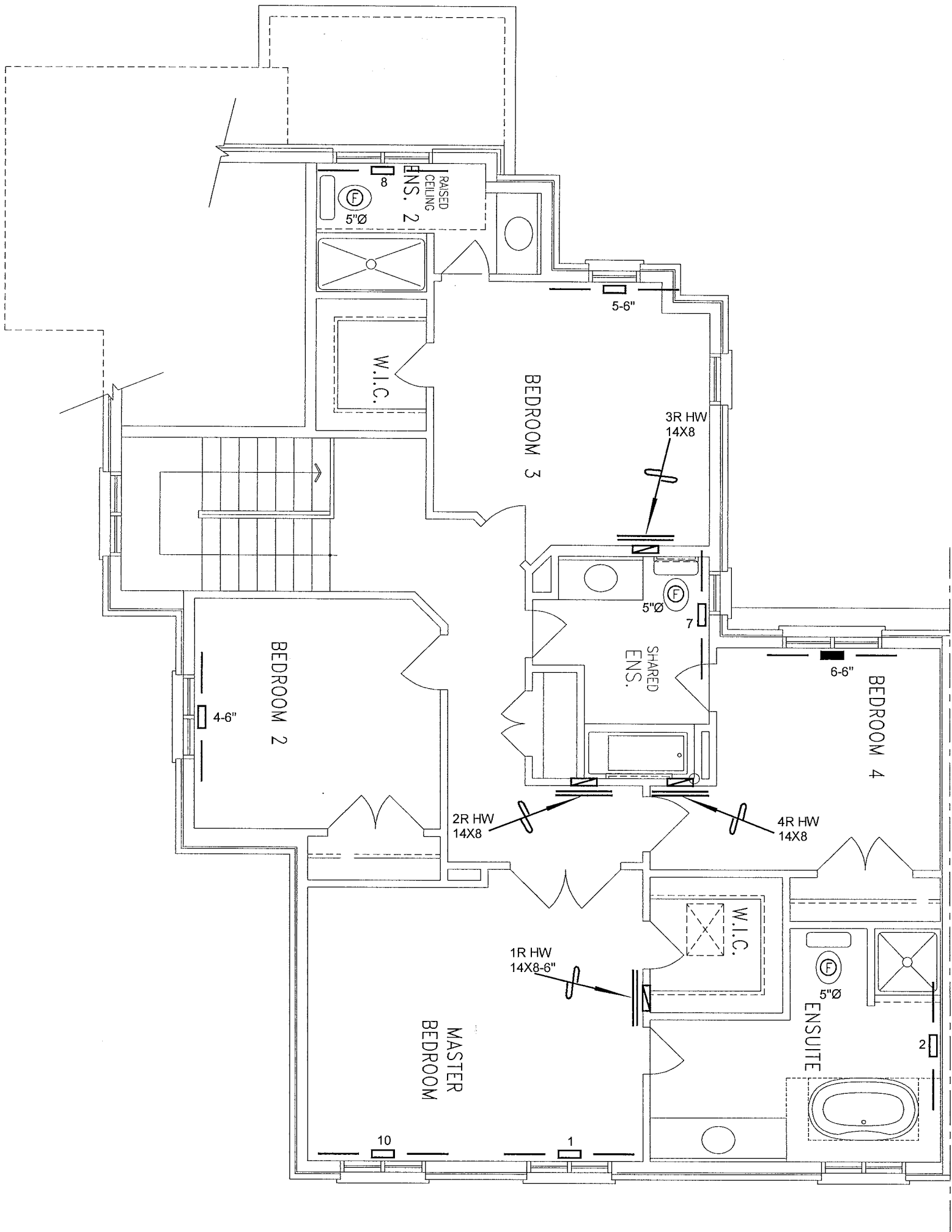
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, TACIN# 19669
HVAC DESIGNS LTD.

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 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 FIRST FLOOR HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			Date	JUL/2017
HIGHGROVE 6E 2465 sqft			Scale	3/16" = 1'-0"
			BCIN# 19669	
			LO#	75030



SECOND FLOOR PLAN '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.		
	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@hvacdsgns.ca Web: www.hvacdsgns.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		SECOND FLOOR HEATING LAYOUT
Project Name		Date JUL/2017
RUSSEL GARDENS HAMILTON, ONTARIO		Scale 3/16" = 1'-0"
HIGHGROVE 6E 2465 sqft		BCIN# 19669
		LO# 75030