

ROOM USE			FAM		LV/DN		KT/BK		L/HO/G		LND		W/R		FOY		MUD						WOD		BAS	
EXP. WALL			40		28		45		10		0		6		53		25						49		204	
CLG. HT.			10		10		10		10		9		10		10		11						9		9	
FACTORS																										
GRS.WALL AREA	LOSS	GAIN	400		280		450		100		0		60		530		275						441		1371	
GLAZING	LOSS	GAIN	LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN						LOSS		GAIN	
NORTH	19.8	16.0	0	0	0	0	0	23	455	367	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	99
EAST	19.8	41.6	0	0	0	0	0	0	0	0	0	0	0	0	0	7	138	291	0	0	0	0	0	0	8	158
SOUTH	19.8	24.9	0	0	0	36	712	896	0	0	0	12	237	299	0	7	138	174	0	0	0	0	0	0	10	198
WEST	19.8	41.6	47	929	1953	0	0	0	52	1028	2161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	20	469	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	353	1463	265	244	1012	183	355	1472	267	88	365	66	0	0	0	53	220	40	483	2002	363	255	1057	192
NET EXPOSED BSMT WALL ABOVE GR	3.3	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
EXPOSED CLG	1.2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	120	143	71	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	1.3	10	26	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0	0	100	237	43	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			2418		1723		3423		602		380		358		3079		1526						0		6856	
SUB TOTAL HT GAIN			2231		1080		2880		365		113		214		824		277						0		6856	
LEVEL FACTOR / MULTIPLIER	0.30	0.54	0.30		0.54		0.30		0.54		0.30		0.54		0.30		0.54		0.30		0.54		710		1028	
AIR CHANGE HEAT LOSS			1304		929		1846		325		120		193		1661		823						0.50		1.12	
AIR CHANGE HEAT GAIN			216		104		279		35		11		21		80		27						11803		168	
DUCT LOSS			0		0		0		0		50		0		0		0						0		0	
DUCT GAIN			0		0		0		0		88		0		0		0						0		0	
HEAT GAIN PEOPLE	240		0		0		0		1		240		0		0		0						0		0	
HEAT GAIN APPLIANCES/LIGHTS			754		754		754		754		754		754		0		0						0		0	
TOTAL HT LOSS BTU/H			3722		2653		5270		927		549		561		4740		2349						1196		21137	
TOTAL HT GAIN x 1.3 BTU/H			4161		2520		5087		1813		1257		305		1175		395						924		1555	

TOTAL COMBINED HEAT LOSS BTU/H: 65508

SITE NAME: RUSSEL GARDENS PH 4
BUILDER: GREENPARK HOMES

TYPE: SPRINGFIELD 4

DATE: Apr-21

GFA: 4076 LO# 90168

HEATING CFM 1504 COOLING CFM 1504
TOTAL HEAT LOSS 62,843 TOTAL HEAT GAIN 42,444
AIR FLOW RATE CFM 23.93 AIR FLOW RATE CFM 35.44furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35plenum pressure s/a 0.18
max s/a dif press. loss 0.03
min adjusted pressure s/a 0.15r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15#*GOODMAN
GMCE960804CNA 80
FAN SPEED LOW 868
MEDLOW 978
MEDIUM 1112
MEDIUM HIGH 1504
HIGH 1615AFUE = 96 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800DESIGN CFM = 1504
CFM @ 8" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	18	9	6
R/A	0	0	6	3	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	ENS-2	ENS-3	FL/B-5	MBR	ENS-4	FAM	LV/DN	KT/BK	KT/BK	L/HO/G	LND	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.43	1.10	0.57	1.65	1.25	1.31	0.38	0.58	1.28	1.43	0.58	1.86	2.65	2.63	2.63	0.93	0.55	0.55	4.74	2.35	3.72	3.72	3.72	3.72
CFM PER RUN HEAT	34	26	14	40	30	31	9	14	31	34	14	45	63	63	63	22	13	13	113	56	89	89	89	89
RM GAIN MBH	2.04	0.71	0.17	2.17	2.00	2.02	0.16	0.37	1.97	2.04	0.37	2.08	2.52	2.54	2.54	1.81	1.26	0.31	1.17	0.39	0.41	0.41	0.41	0.41
CFM PER RUN COOLING	72	25	6	77	71	71	6	13	70	72	13	74	89	90	90	64	45	11	42	14	15	15	15	15
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	0.16	0.16	0.16	0.17	0.17	0.17	0.15	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	49	49	42	39	47	50	37	39	28	37	44	28	21	36	41	31	24	34	36	20	35	32	16	23
EQUIVALENT LENGTH	120	130	100	140	190	120	190	160	150	160	150	140	130	110	90	140	190	150	110	130	100	130	110	100
TOTAL EFFECTIVE LENGTH	169	179	142	179	237	170	227	199	178	197	194	168	151	146	131	171	214	184	146	150	135	162	126	123
ADJUSTED PRESSURE	0.1	0.1	0.12	0.1	0.07	0.1	0.08	0.09	0.1	0.09	0.09	0.1	0.11	0.11	0.12	0.1	0.08	0.09	0.1	0.11	0.12	0.1	0.13	0.13
ROUND DUCT SIZE	5	5	4	5	6	5	4	4	5	5	4	5	6	6	6	5	5	4	6	5	6	6	6	6
HEATING VELOCITY (ft/min)	250	191	161	294	153	228	103	161	228	250	161	330	321	321	321	162	95	149	576	411	454	454	454	454
COOLING VELOCITY (ft/min)	529	184	69	565	362	521	69	149	514	529	149	543	454	459	459	470	330	126	214	103	76	76	76	76
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	A	C	E	D	A	E	F	C	A	F	A	F	B	B	E	E	D	D	F	B	A	C	C

RUN #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BAS	HALL	HALL	ENS	BED-2	BED-2	FAM	ENS-2
RM LOSS MBH	3.72	3.72	1.70	1.70	1.10	1.65	1.65	1.86	0.38
CFM PER RUN HEAT	89	89	41	41	26	40	40	45	9
RM GAIN MBH	0.41	0.41	2.00	2.00	0.71	2.17	2.17	2.08	0.16
CFM PER RUN COOLING	15	15	71	71	25	77	77	74	6
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	31	38	50	45	43	46	52	42	37
EQUIVALENT LENGTH	110	120	180	190	110	150	170	110	210
TOTAL EFFECTIVE LENGTH	141	158	230	235	153	196	222	152	247
ADJUSTED PRESSURE	0.11	0.1	0.07	0.07	0.11	0.09	0.08	0.11	0.07
ROUND DUCT SIZE	6	6	6	6	4	5	5	5	4
HEATING VELOCITY (ft/min)	454	454	209	209	298	294	294	330	103
COOLING VELOCITY (ft/min)	76	76	362	362	287	565	565	543	69
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	A	E	E	A	E

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	296	0.09	8.6	10	534
TRUNK B	215	0.11	7.3	8	484
TRUNK C	768	0.09	12.3	18	768
TRUNK D	327	0.07	9.5	10	589
TRUNK E	589	0.07	11.9	16	663
TRUNK F	736	0.07	12.9	20	662

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	130	85	75	115	115	155	310	155	0	0	0	0	0	0	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	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	40	41	33	51	55	60	44	42	34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	275	155	195	235	225	265	200	195	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	315	196	228	286	280	325	244	237	244	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.08	0.06	0.05	0.05	0.05	0.06	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7	6.5	6	6	7	7	7.5	9.7	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	8
TRUNK P	0	0.05	0	0	8
TRUNK Q	0	0.05	0	0	8
TRUNK R	0	0.05	0	0	8
TRUNK S	0	0.05	0	0	8
TRUNK T	0	0.05	0	0	8
TRUNK U	0	0.05	0	0	8
TRUNK V	0	0.05	0	0	8
TRUNK W	230	0.05	9.1	10	8
TRUNK X	1504	0.05	18.4	32	10
TRUNK Y	460	0.05	11.8	16	8
TRUNK Z	465	0.05	11.8	16	8
DROP	1504	0.05	18.4	24	14

TYPE: SPRINGFIELD 4
SITE NAME: RUSSEL GARDENS PH 4

LO # 90168

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	5 @ 10.6 cfm 53 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm 63.6 cfm
Other Rooms	6 @ 10.6 cfm 63.6 cfm
Table 9.32.3.A.	TOTAL 222.6 cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)
6 Bedrooms	
As Per Ashrea 62.2 Dwelling- Unit Ventilation	
4.1.1 Total Ventilation Rate	
$Q_{tot}=0.03A_{floor}+7.5(N_{br}+1)$	
TOTAL	174.8 cfm

SUPPLEMENTAL VENTILATION CAPACITY	9.32.3.5.
Total Ventilation Capacity	222.6 cfm
Less Principal Ventil. Capacity	174.8 cfm
Required Supplemental Capacity	47.8 cfm

PRINCIPAL EXHAUST FAN CAPACITY
Model: VANEE G2400H ECM Location: BSMT
174.8 cfm ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION
CFM ΔT °F FACTOR % LOSS
174.8 CFM X 71 F X 1.08 X 0.20

SUPPLEMENTAL FANS	BY INSTALLING CONTRACTOR
Location Model cfm HVI Sones	
ENS BY INSTALLING CONTRACTOR 50 ☒ 3.5	
ENS-2 BY INSTALLING CONTRACTOR 50 ☒ 3.5	
ENS-4 BY INSTALLING CONTRACTOR 50 ☒ 3.5	
W/R BY INSTALLING CONTRACTOR 50 ☒ 3.5	

HEAT RECOVERY VENTILATOR	9.32.3.11.
Model: VANEE G2400H ECM	
210 cfm high 50 cfm low	
80 % 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: April-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations
 Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 90168

Model: SPRINGFIELD 4

Builder: GREENPARK HOMES

Date: 09/04/2021

Volume Calculation

House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1863	9	16767
First	1863	10	18630
Second	2213	9	19917
Third	0	9	0
Fourth	0	9	0
Total:			55,314.0 ft ³
Total:			1566.3 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.338
SUMMER NATURAL AIR CHANGE RATE	0.121

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-17	39	71
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.338 x 435.09 x 39 °C x 1.2 = 6918 W

= 23606 Btu/h

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

= 0.121 x 435.09 x 7 °C x 1.2 = 449 W

= 1533 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

175 CFM x 71 °F x 1.08 x 0.20 = 2666 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

175 CFM x 13 °F x 1.08 x 0.20 = 483 Btu/h

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) + (HL_{agcleve} + HL_{bgcleve})\}$$

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{cleve})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	23,606	10,531	1.121
2	0.3		13,130	0.539
3	0.2		15,007	0.315
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HLairve = 0

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** SPRINGFIELD 4**BUILDER:** GREENPARK HOMES**SFQT:** 4076**LO#** 90168**SITE:** RUSSEL GARDENS PH 4**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

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 (ft³):	55314.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	7
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: 63.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	204.0 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	96%	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

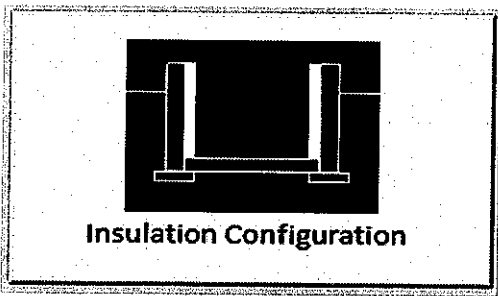
INDIVIDUAL BCIN: 19669

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):	19.2	
Floor Width (m):	11.9	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	3.3	
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):	2009	

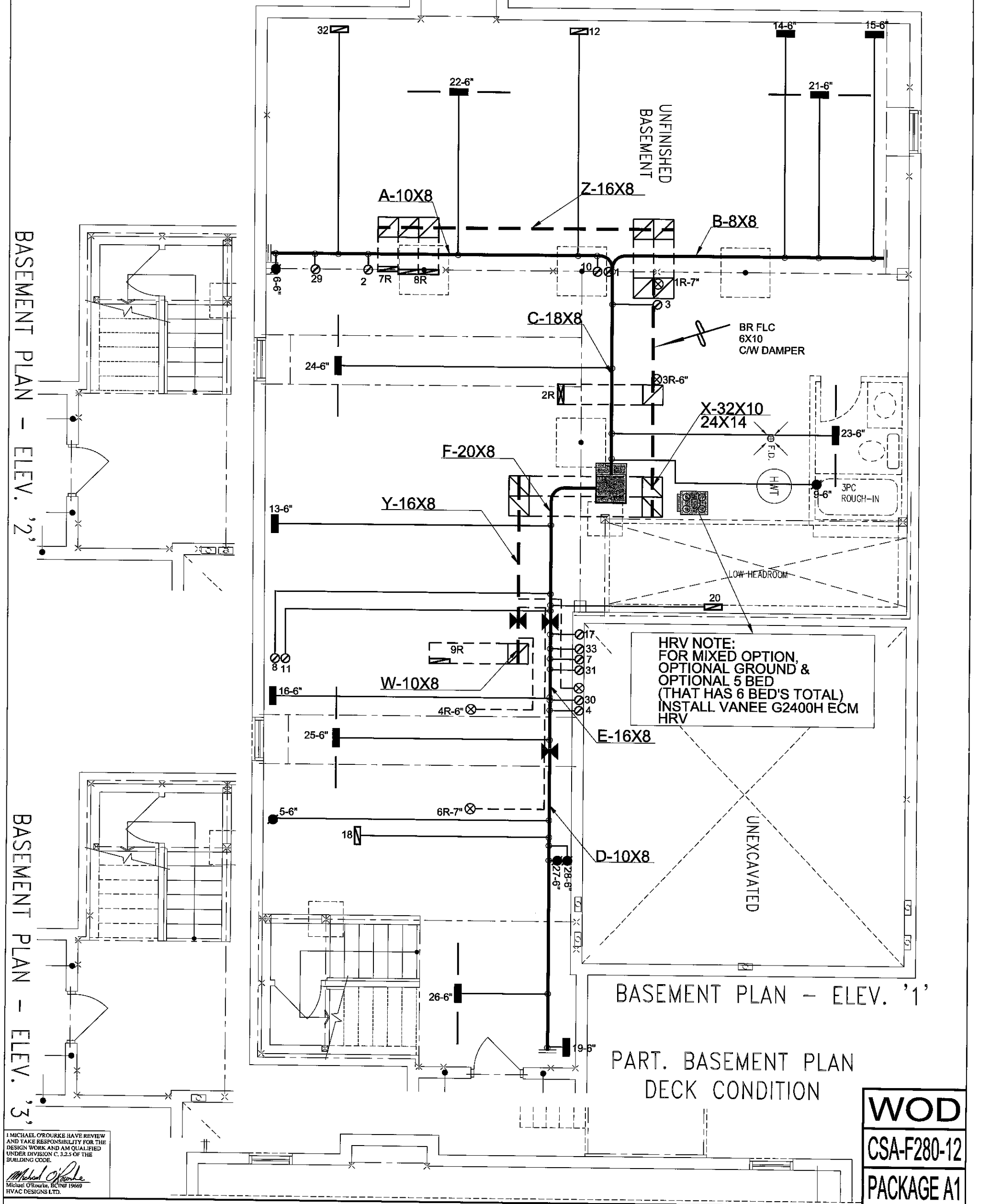
TYPE: SPRINGFIELD 4
LO# 90168

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):	7.62			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1566.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2088.0 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	82.5	82.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.338			
Cooling Air Leakage Rate (ACH/H):	0.121			

TYPE: SPRINGFIELD 4
LO# 90168

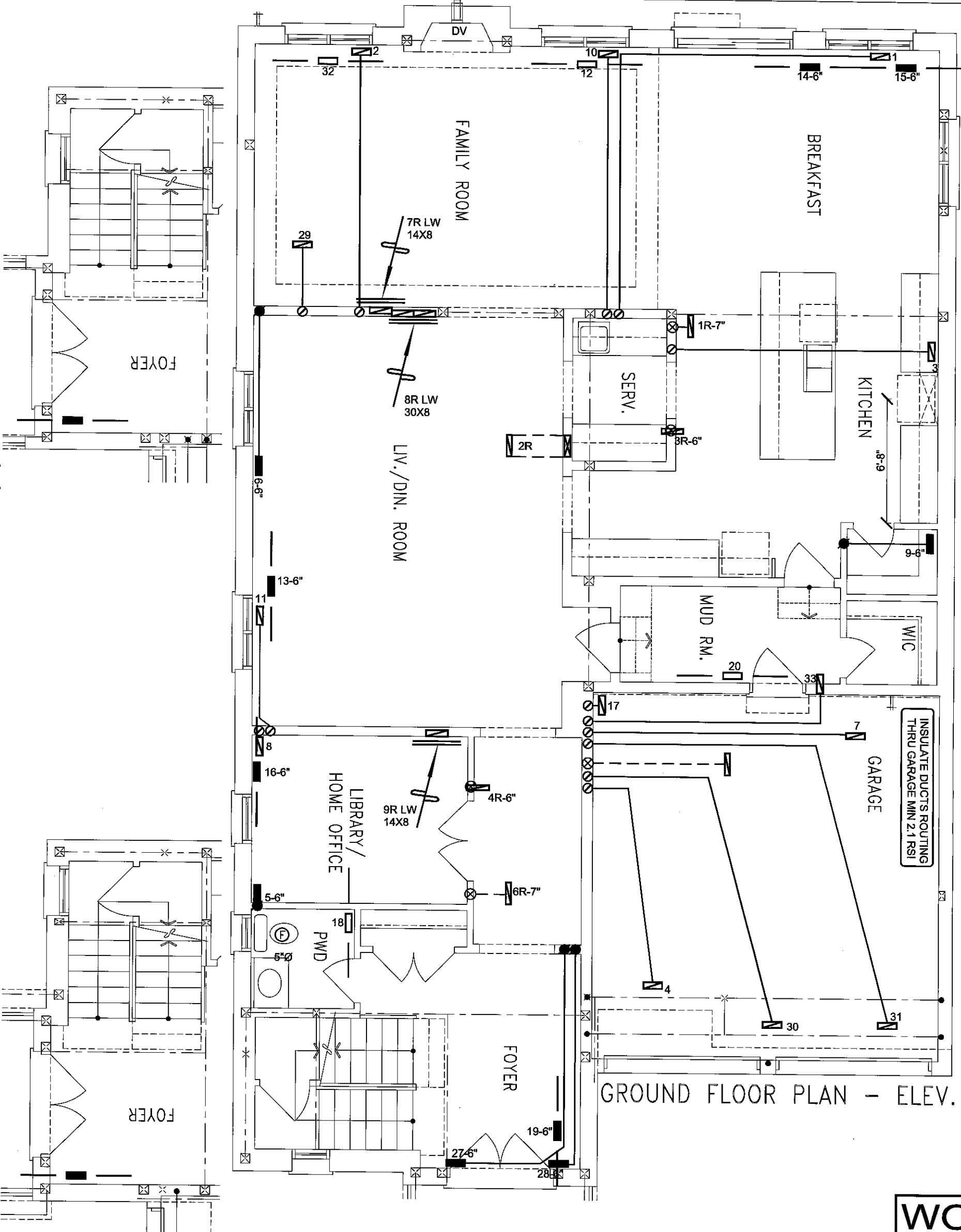


I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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.				HEAT LOSS 65508 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title BASEMENT HEATING LAYOUT			
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO						MAKE GOODMAN		3RD FLOOR					
						MODEL GMEC960804CNA		2ND FLOOR				18 6 6	
						INPUT		1ST FLOOR				9 3 2	
						OUTPUT		BASEMENT				6 1 0	
SPRINGFIELD 4 4076 sqft						80 MBTU/H		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		Date APR/2021			
				76.8 MBTU/H				Scale 3/16" = 1'-0"		BCIN# 19669			
				COOLING 3.5 TONS						LO# 90168			
				FAN SPEED 1504 cfm @ 0.6" w.g.									

GROUND FLOOR PLAN - ELEV. '2'

GROUND FLOOR PLAN - ELEV. '3'



GROUND FLOOR PLAN - ELEV. '1'

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Michael O'Rourke
Michael O'Rourke, BCTN# 19669
HVAC DESIGNS LTD.

WOD

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

Project Name

**RUSSELL GARDENS PH 4
HAMILTON, ONTARIO**

SPRINGFIELD 4 4076 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
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

**FIRST FLOOR
HEATING
LAYOUT**

Date **APR/2021**

Scale **3/16" = 1'-0"**

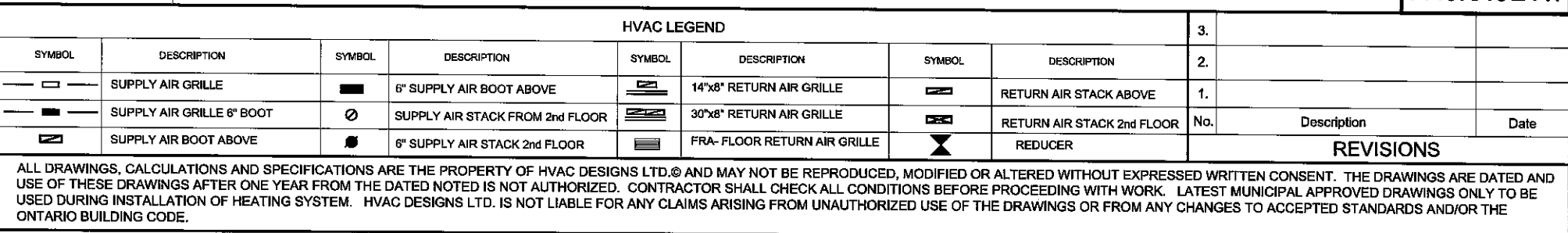
BCIN# 19669

LO# **90168**

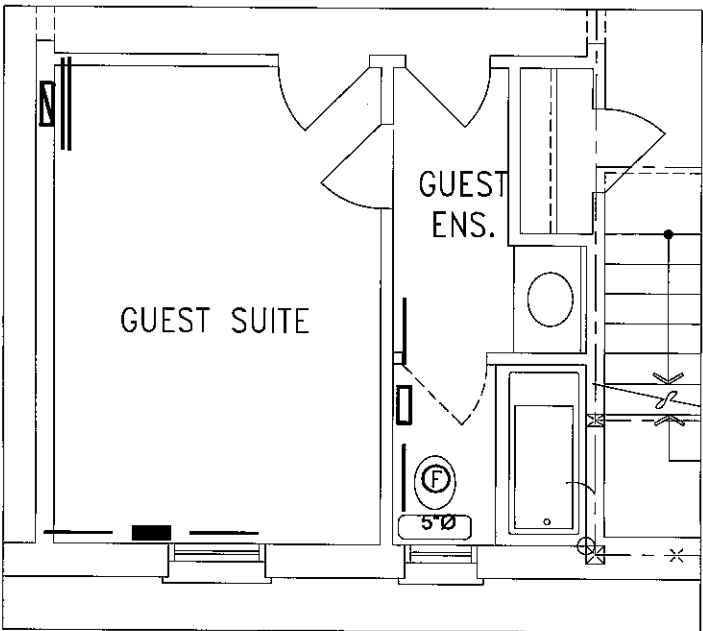
REVISIONS		
No.	Description	Date

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Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.



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GREENPARK HOMES		SECOND FLOOR	
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO		HEATING LAYOUT	
SPRINGFIELD 4 4076 sqft		Date	APR/2021
	Scale	3/16" = 1'-0"	
	BCIN# 19669		
		LO#	90168



PARTIAL OPT. GROUND FLOOR PLAN W/ GUEST SUITE

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Michael O'Rourke
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WOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
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GREENPARK HOMES			GUEST SUITE HEATING LAYOUT	
Project Name			Date	APR/2021
RUSSELL GARDENS PH 4 HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
SPRINGFIELD 4 4076 sqft			BCIN# 19669	
		LO#	90168	