

SITE NAME: RUSSEL GARDENS PHASE 3

LOT 284

DATE: Feb-21

WINTER NATURAL AIR CHANGE RATE 0.356

HEAT LOSS AT °F. 71

CSA-F280-12

BUILDER: GREENPARK HOMES

TYPE: MOUNTAINASH 3 WUB

GFA: 3072

LO# 85966

SUMMER NATURAL AIR CHANGE RATE 0.127

HEAT GAIN AT °F. 13

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC-3	BED-3	BED-4	BED-5	ENS-1	BED-2	S-ENS
			42	11	7	27	32	18	16	25	6
			9	9	9	9	9	9	9	9	9
FACTORS	LOSS	GAIN	376	99	63	243	288	162	144	225	54
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
GLAZING											
NORTH	19.8	14.7	0	0	0	0	0	0	7	138	103
EAST	19.8	37.8	0	0	0	0	0	0	0	0	0
SOUTH	19.8	22.8	0	0	0	0	0	0	0	0	0
WEST	19.8	37.8	32	633	1208	0	0	0	0	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	346	1434	260	83	344	62	45	187	34
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	512	610	301	132	157	78	46	55	27
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	25	64	31
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	42	108	18
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			2677		818	697	2626	2522	1246	912	1369
SUB TOTAL HT GAIN				1769	504	758	2084	2357	634	290	853
LEVEL FACTOR / MULTIPLIER			0.20	0.27	0.20	0.27	0.20	0.27	0.20	0.27	0.20
AIR CHANGE HEAT LOSS			726		222	189	712	684	338	247	371
AIR CHANGE HEAT GAIN				142	40	61	167	189	51	23	68
DUCT LOSS			0		0	89	334	321	0	116	0
DUCT GAIN				0	0	82	300	330	0	31	0
HEAT GAIN PEOPLE	240		2	480	0	0	1	240	1	240	0
HEAT GAIN APPLIANCES/LIGHTS				514	0	0	514	514	0	514	0
TOTAL HT LOSS BTU/H			3403		1039	974	3672	3526	1583	1275	1740
TOTAL HT GAIN x 1.3 BTU/H				3776	708	1172	4297	4719	1870	448	2177

ROOM USE	EXP. WALL	CLG. HT.	L/D	FM	K/B	L/H	LND	W/R	FOY	WOB	BAS
			30	33	35	27	31	7	18	46	151
			10	10	10	11	10	10	10	8	8
FACTORS	LOSS	GAIN	300	330	350	297	310	70	180	368	906
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	LOSS	GAIN
GLAZING											
NORTH	19.8	14.7	0	0	0	0	0	0	0	0	0
EAST	19.8	37.8	0	0	0	0	0	0	6	119	227
SOUTH	19.8	22.8	36	712	820	0	0	0	7	138	159
WEST	19.8	37.8	0	0	0	0	0	0	0	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	264	1094	198	296	1227	222	264	1094	198
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	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	0.4	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			1806		1899	2839	1856	1796	1612	2142	4380
SUB TOTAL HT GAIN				1018	1506	2938	1703	415	497	347	449
LEVEL FACTOR / MULTIPLIER			0.30	0.42	0.30	0.42	0.30	0.42	0.30	0.42	0.50
AIR CHANGE HEAT LOSS			752		790	1181	772	747	488	671	9002
AIR CHANGE HEAT GAIN				82	121	235	136	33	28	40	64
DUCT LOSS			0		0	0	0	0	0	0	0
DUCT GAIN				0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				514	514	514	514	514	0	0	514
TOTAL HT LOSS BTU/H			2558		2689	4020	2628	2544	1660	2283	13382
TOTAL HT GAIN x 1.3 BTU/H				2097	2783	4794	3060	1259	487	698	1334

TOTAL HEAT GAIN BTU/H:

36782

TONS: 3.07

LOSS DUE TO VENTILATION LOAD BTU/H: 1819

STRUCTURAL HEAT LOSS: 51651

TOTAL COMBINED HEAT LOSS BTU/H: 53470

GFA: 3072 LO# 85966

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

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.02	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.16	adjusted pressure r/a	0.15

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

RUN #
ROOM NAME
RM LOSS MBH.
CFM PER RUN HEAT
RM GAIN MBH.
CFM PER RUN COOLING
ADJUSTED PRESSURE
ACTUAL DUCT LGH.
EQUIVALENT LENGTH
TOTAL EFFECTIVE LENGTH
ADJUSTED PRESSURE
ROUND DUCT SIZE
HEATING VELOCITY (ft/min)
COOLING VELOCITY (ft/min)
OUTLET GRILL SIZE
TRUNK

RETURN AIR #	1	2	3	4	5	6	7	8								BR	TRUNK W	0	0.05	0	0	x	8	0
AIR VOLUME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	161	TRUNK X	846	0.05	14.8	26	x	8	586
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		TRUNK Y	585	0.05	12.9	20	x	8	527
ACTUAL DUCT LGH.	56	58	52	56	51	31	33	60	1	1	1	1	1	1	1	15	TRUNK Z	205	0.05	8.7	10	x	8	369
EQUIVALENT LENGTH	215	235	195	165	255	195	220	240	0	0	0	0	0	0	0	175	DROP	1131	0.05	16.5	24	x	10	679
TOTAL EFFECTIVE LH	271	293	247	221	306	226	253	300	1	1	1	1	1	1	1	190								
ADJUSTED PRESSURE	0.05	0.05	0.06	0.07	0.05	0.07	0.06	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08								
ROUND DUCT SIZE	6	7.3	5.6	5.4	5.8	10.1	5.7	6.7	0	0	0	0	0	0	0	7.1								
INLET GRILL SIZE	8	8	8	8	8	8	8	8	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	30	14	14	0	0	0	0	0	0	0	14								

TYPE: MOUNTAINASH 3 WUB
SITE NAME: RUSSEL GARDENS PHASE 3

LO # 85986
LOT 284

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>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</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		<u>95.4</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>95.4</u>	cfm
Required Supplemental Capacity	<u>116.6</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>95.4</u> cfm	<u>3.0</u> sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
95.4 CFM	X 71 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		PANASONIC	
Location	Model	cfm	HVI Sones
ENS	FV-05-11VK1	50	☒ 0.3
ENS-1	FV-05-11VK1	50	☒ 0.3
S-ENS	FV-05-11VK1	50	☒ 0.3
W/R	FV-05-11VK1	50	☒ 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</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:	February-21

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* MICHAEL O'ROURKE

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

LO#: 85966

Model: MOUNTAINASH 3 WUB

Builder: GREENPARK HOMES

Date: 2/8/2021

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1378	8	11024
First	1378	10	13780
Second	1694	9	15246
Third	0	9	0
Fourth	0	9	0
Total:			40,050.0 ft³
Total:			1134.1 m³

WINTER NATURAL AIR CHANGE RATE	0.356
SUMMER NATURAL AIR CHANGE RATE	0.127

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
6.2.6 Sensible Gain due to Air Leakage

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

0.356 x 315.02 x 39 °C x 1.2 = 5277 W

= 18004 Btu/h

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

= 0.127 x 315.02 x 7 °C x 1.2 = 342 W

= 1168 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation
6.2.7 Sensible heat Gain due to Ventilation

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

95 CFM x 71 °F x 1.08 x 0.25 = 1819 Btu/h

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

95 CFM x 13 °F x 1.08 x 0.25 = 330 Btu/h

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

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{level})
1	0.5	18,004	6,521	1.380
2	0.3		12,981	0.416
3	0.2		13,286	0.271
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: MOUNTAINASH 3 WUB	LOT 284	BUILDER: GREENPARK HOMES
SFQT: 3072	LO# 85966	SITE: RUSSEL GARDENS PHASE 3

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):	40050.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 36.0 ft	EXPOSED PERIMETER:	151.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	27.0 ft

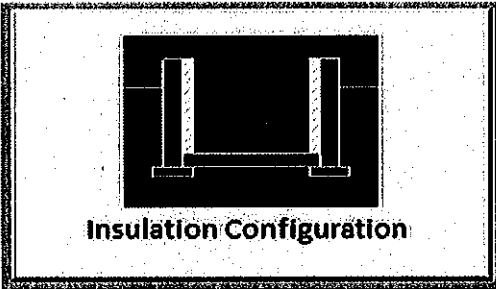
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement 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

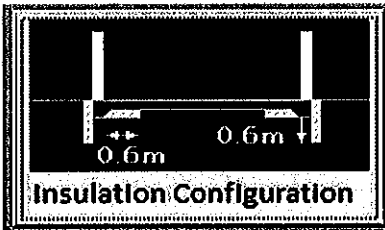
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	5.2	 Insulation Configuration
Floor Width (m):	11.0	
Exposed Perimeter (m):	46.0	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.44	
Window Area (m ²):	0.8	
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):		798

TYPE: MOUNTAINASH 3 WUB
LO# 85966

LOT 284

Residential Slab on Grade 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):	2.1	
Width (m):	4.0	
Exposed Perimeter (m):	8.2	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		67

TYPE: MOUNTAINASH 3 WUB
LO# 85966

LOT 284

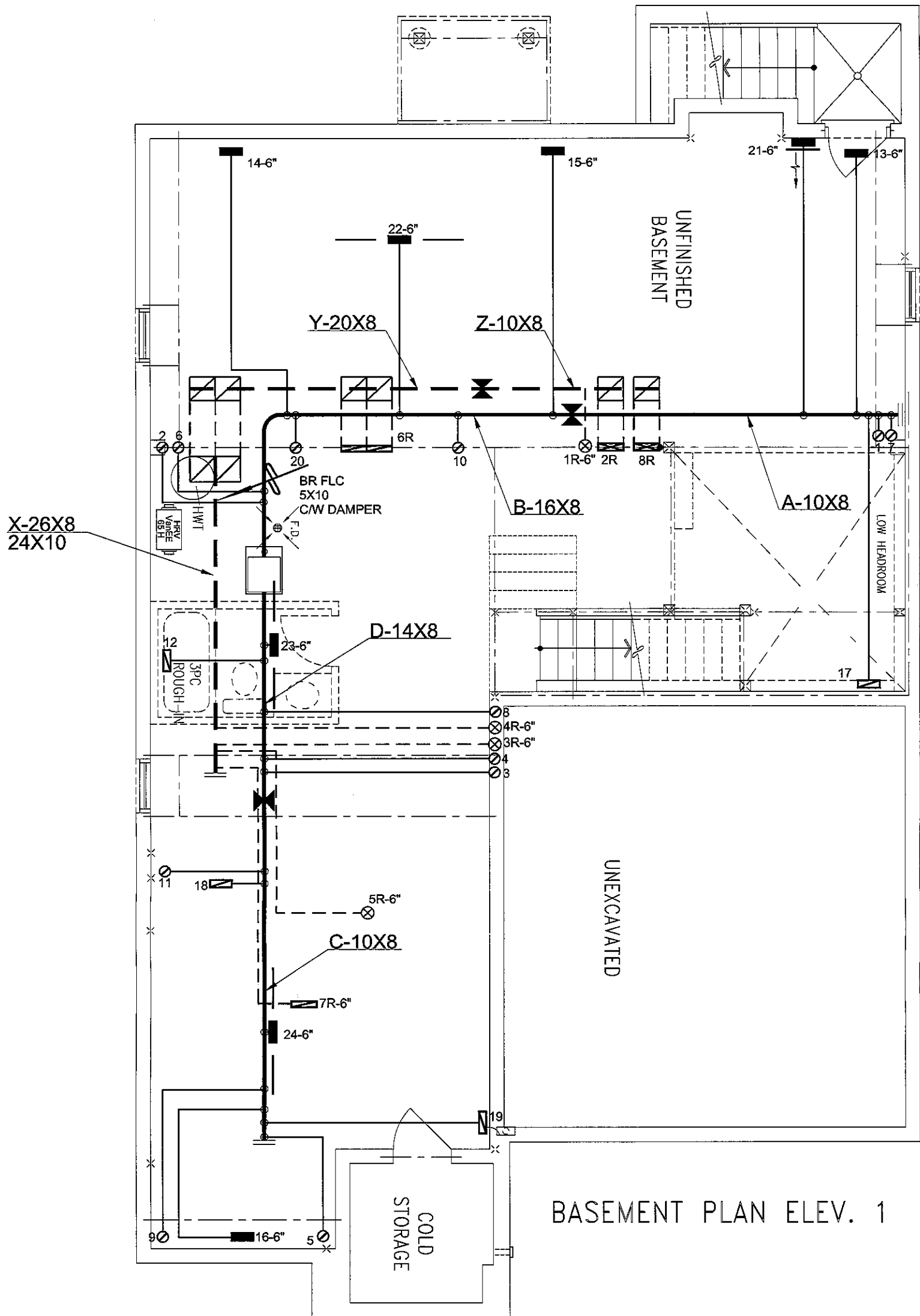
Air Infiltration Residential Load Calculator

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):	8.23			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1134.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1511.8 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	45.0	45.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.356			
Cooling Air Leakage Rate (ACH/H):	0.127			

TYPE: MOUNTAINASH 3 WUB
LO# 85966

LOT 284



BASEMENT PLAN ELEV. 1

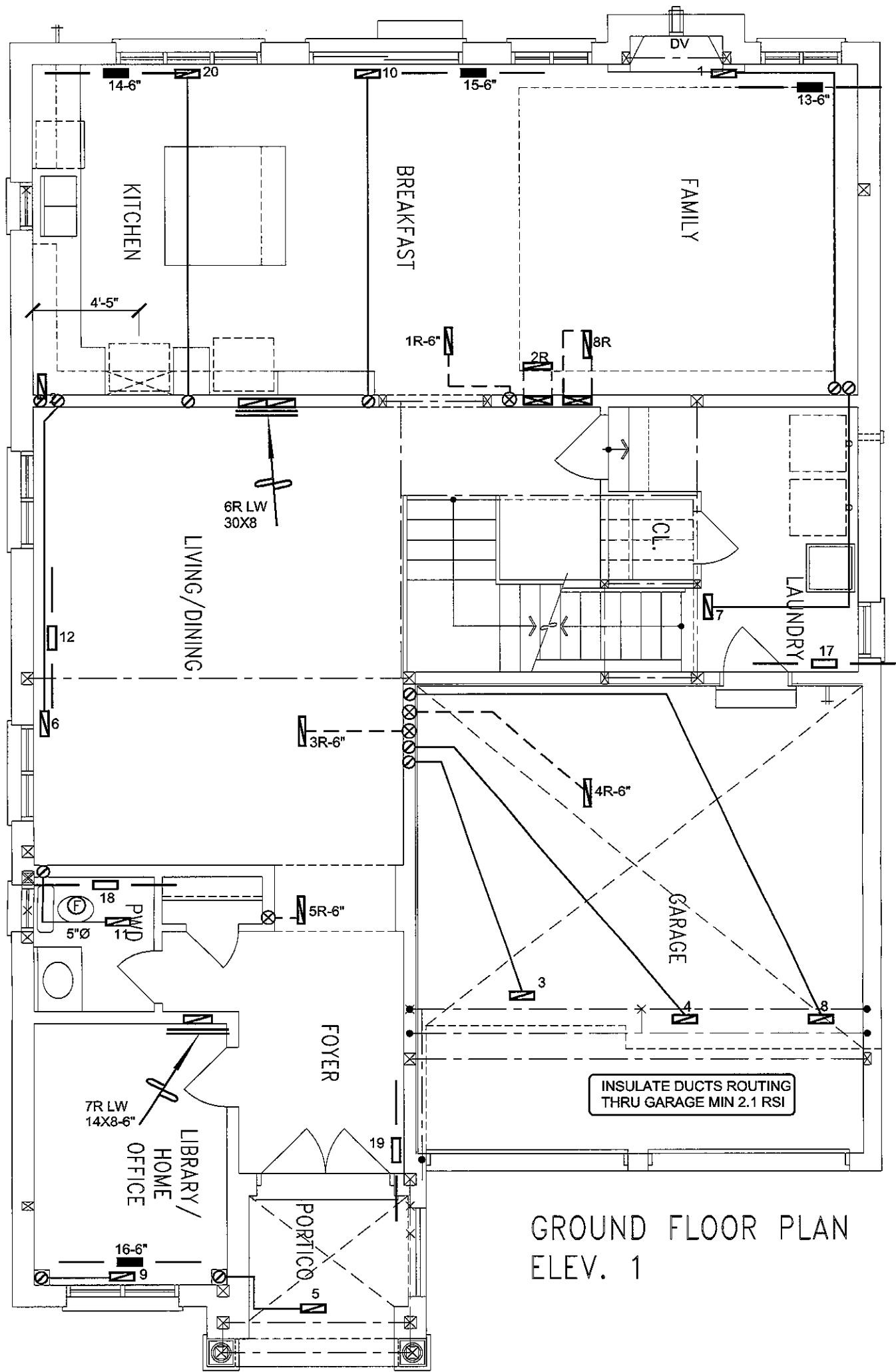
I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 284	CSA-F280-12
WUB	PACKAGE A1

HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	3.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	2.	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		RETURN AIR STACK 2nd FLOOR	1.	
					FRA- FLOOR RETURN AIR GRILLE		
					REDUCER		

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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	HEAT LOSS 53470 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
Project Name RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO			MAKE GOODMAN	3RD FLOOR				BASEMENT HEATING LAYOUT	
			MODEL GMEC960603BNA	2ND FLOOR	12	6	3		
			INPUT 60 MBTU/H	1ST FLOOR	8	2	2		
			OUTPUT 57.6 MBTU/H	BASEMENT	4	1	0		
LOT 284 WUB MOUNTAINASH 3 3072 sqft		COOLING 3.0 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			Date SEPT/2020			
		FAN SPEED 1131 cfm @ 0.6" w.c.				Scale 3/16" = 1'-0"			
					BCIN# 19669				
					LO#			87550	



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.

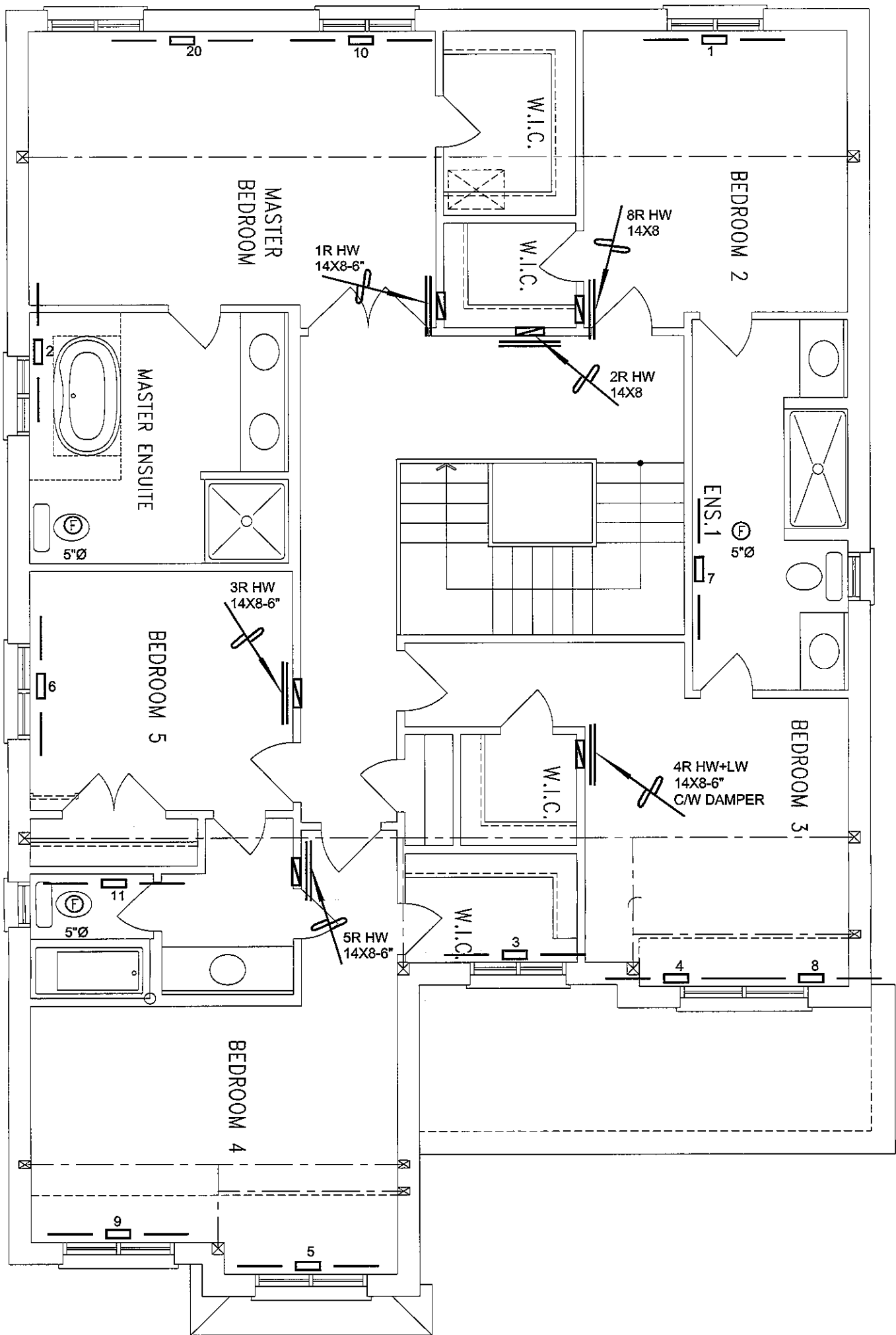
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 284	CSA-F280-12
WUB	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 Project Name RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO LOT 284 WUB MOUNTAINASH 3 3072 sqft	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 SEPT/2020 Scale 3/16" = 1'-0" BCIN# 19669 LO# 87550
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OPT. SECOND FLOOR PLAN
(5 BED) 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.

LOT 284	CSA-F280-12
WUB	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.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	
							REVISIONS	
							No.	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.	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO			Date SEPT/2020	
LOT 284 WUB MOUNTAINASH 3 3072 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
		LO#	87550	