

ROOM USE			L/D		FAM		K/B		L/H		LND				FOY		MUD						WOB		BAS			
EXP. WALL			50		35		44		10		7				28		24						52		132			
CLG. HT.			11		11		11		11		9				11		12						9		9			
FACTORS																												
GRS.WALL AREA	LOSS	GAIN	550		385		484		110		63				308		285						468		792			
GLAZING	LOSS	GAIN	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN			
NORTH	19.8	16.0	0	0	0	0	0	158	128	18	356	288	7	138	112								8	168	128	0	0	0
EAST	19.8	41.6	0	0	0	0	0	0	0	0	0	0	0	0	0	35	692	1454	0	0	0	0	0	0	0	0	0	
SOUTH	19.8	24.9	36	712	835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	168	199	10	198	249
WEST	19.8	41.6	0	0	0	45	909	1911	33	652	1371	0	0	0	0	0	0	0	0	0	0	61	1206	2635	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	0	
DOORS	23.5	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	40	938	170	20	469	85	0	0	0	0	0	0	
NET EXPOSED WALL	4.1	0.8	514	2131	385	339	1405	255	407	1687	306	32	381	69	56	219	908	165	268	1111	201	0	0	0	0	0	0	
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	0	
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	29	35	17	0	0	0	125	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS																												
SLAB ON GRADE HEAT LOSS																												
SUBTOTAL HT LOSS			2842		2315		3318		737		521		2815		1680		688		4217		4494							
SUB TOTAL HT GAIN			1283		2166		2305		357		228		2013		286		3226		574									
LEVEL FACTOR / MULTIPLIER		0.30	0.49		0.30	0.49		0.30	0.49		0.20	0.30		0.30	0.49		0.30	0.49		0.50	1.27							
AIR CHANGE HEAT LOSS			1391		1133		1624		361		156		1378		773				11100									
AIR CHANGE HEAT GAIN			92		156		186		26		16		145		21				274									
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									
HEAT GAIN APPLIANCES/LIGHTS			504		504		504		504		504		504		504				504									
TOTAL HT LOSS BTU/H			4234		3448		4942		1058		677		4192		2354				4217		15594							
TOTAL HT GAIN x 1.3 BTU/H			2443		3674		3868		1152		973		2805		1055				4193		1765							

TOTAL COMBINED HEAT LOSS BTU/H: 61795

SITE NAME: RUSSEL GARDENS PHASE 3
BUILDER: GREENPARK HOMES

LOT 12
TYPE: MOUNTAINASH 6

DATE: Aug-20

GFA: 3400 LO# 87254

HEATING CFM	1504	COOLING CFM	1504
TOTAL HEAT LOSS	60,279	TOTAL HEAT GAIN	47,154
AIR FLOW RATE CFM	24.95	AIR FLOW RATE CFM	31.9

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

#*GOODMAN
GMEC960804CNA 80

AFUE = 96 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800

DESIGN CFM = 1504
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	17	10	5
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.**

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

LOW	868
MEDLOW	978
MEDIUM	1112
MEDIUM HIGH	1504
HIGH	1615

TEMPERATURE RISE 47 °F

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	S-ENS	FLEX	WIC-3	MBR	ENS-3	L/D	FAM	K/B	K/B	L/H	LND	FOY	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.37	1.19	0.59	2.13	1.35	1.76	0.31	1.08	1.45	1.37	0.59	2.12	1.72	2.47	2.47	1.10	0.68	2.10	2.10	2.35	3.96	3.96	3.96	3.96
CFM PER RUN HEAT	34	30	15	53	34	44	8	27	36	34	15	53	43	62	62	27	17	52	52	59	99	99	99	99
RM GAIN MBH	1.83	1.10	0.84	2.33	2.00	1.73	0.46	1.30	2.90	1.83	1.03	1.22	1.84	1.93	1.93	1.15	0.97	1.40	1.40	1.05	1.19	1.19	1.19	1.19
CFM PER RUN COOLING	58	35	27	74	64	55	15	41	93	58	33	39	59	62	62	37	31	45	45	34	38	38	38	38
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	37	35	22	65	67	49	44	34	56	26	45	35	26	31	24	19	49	53	46	23	15	22	33	33
EQUIVALENT LENGTH	120	150	160	150	200	190	170	150	160	140	180	120	110	140	130	100	180	140	130	120	140	120	120	180
TOTAL EFFECTIVE LENGTH	157	185	182	215	267	239	214	184	216	166	225	155	136	171	154	119	229	193	176	143	155	142	153	213
ADJUSTED PRESSURE	0.11	0.09	0.09	0.08	0.06	0.07	0.08	0.09	0.08	0.1	0.08	0.11	0.13	0.1	0.11	0.14	0.08	0.09	0.1	0.12	0.1	0.11	0.11	0.08
ROUND DUCT SIZE	5	4	4	6	6	5	4	4	6	5	4	5	5	5	5	4	4	5	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	250	344	172	270	173	323	92	310	184	260	172	389	316	455	455	310	195	382	382	433	505	505	505	505
COOLING VELOCITY (ft/min)	426	402	310	377	326	404	172	470	474	426	379	286	433	455	455	424	356	330	330	250	194	194	194	194
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	D	F	F	C	A	C	B	C	B	D	C	B	F	D	D	F	C	A	A	F	F	D	C	A

RUN #	25	26	27	28	29	30	31	32
ROOM NAME	BED-2	BED-3	ENS	S-ENS	FAM	L/D	BAS	BED-3
RM LOSS MBH	2.13	1.35	1.19	0.31	1.72	2.12	3.96	1.35
CFM PER RUN HEAT	53	34	30	8	43	53	99	34
RM GAIN MBH	2.33	2.00	1.10	0.46	1.84	1.22	1.19	2.00
CFM PER RUN COOLING	74	64	35	15	59	39	38	64
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17
ACTUAL DUCT LGH	60	74	30	40	14	49	46	70
EQUIVALENT LENGTH	180	200	120	180	150	170	160	200
TOTAL EFFECTIVE LENGTH	240	274	150	220	164	219	206	270
ADJUSTED PRESSURE	0.07	0.06	0.11	0.08	0.1	0.08	0.08	0.06
ROUND DUCT SIZE	6	6	4	4	5	5	6	6
HEATING VELOCITY (ft/min)	270	173	344	92	316	389	505	173
COOLING VELOCITY (ft/min)	377	326	402	172	433	286	194	326
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10
TRUNK	B	A	F	B	F	A	A	A

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 A	457	0.06	11.2	14	X	588		TRUNK G	0	0.00	0	0	X	8	0	TRUNK O	0	0.05	0	0	X	8	0
TRUNK B	615	0.06	12.6	18	X	615		TRUNK H	0	0.00	0	0	X	8	0	TRUNK P	0	0.05	0	0	X	8	0
TRUNK C	870	0.06	14.3	24	X	653		TRUNK I	0	0.00	0	0	X	8	0	TRUNK Q	0	0.05	0	0	X	8	0
TRUNK D	291	0.10	8.4	8	X	655		TRUNK J	0	0.00	0	0	X	8	0	TRUNK R	0	0.05	0	0	X	8	0
TRUNK E	1161	0.06	15.9	30	X	697		TRUNK K	0	0.00	0	0	X	8	0	TRUNK S	0	0.05	0	0	X	8	0
TRUNK F	346	0.09	9.1	10	X	623		TRUNK L	0	0.00	0	0	X	8	0	TRUNK T	0	0.05	0	0	X	8	0

RETURN AIR #	1	2	3	4	5	6	7	8	9							BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	75	75	135	115	75	75	185	400	135	0	0	0	0	0	234	
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.	68	68	57	74	67	69	21	23	38	1	1	1	1	1	17	
EQUIVALENT LENGTH	245	235	215	235	220	215	155	160	285	0	0	0	0	0	145	
TOTAL EFFECTIVE LH	313	303	272	309	287	284	176	183	323	1	1	1	1	1	162	
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.05	0.05	0.08	0.08	0.05	14.80	14.80	14.80	14.80	14.80	0.09	
ROUND DUCT SIZE	6	6	7.5	7	6	6	7.5	9.9	7.5	0	0	0	0	0	7.9	
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	8	
	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	30	14	0	0	0	0	0	24	

TRUNK Y	585	0.05	12.9	20	x	8	527
TRUNK W	150	0.05	7.8	8	x	8	338
TRUNK X	919	0.05	15.3	28	x	8	591
TRUNK Y	685	0.05	13.7	22	x	8	560
TRUNK Z	535	0.05	12.5	18	x	8	535
DROP	1504	0.05	18.4	24	x	14	645

TYPE: MOUNTAINASH 6
SITE NAME: RUSSEL GARDENS PHASE 3

LO # 87254
LOT 12

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 8 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	5 @ 10.6 cfm	53 cfm
Other Rooms	9 @ 10.6 cfm	95.4 cfm
Table 9.32.3.A. TOTAL		222.6 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		9.32.3.6.
Total Ventilation Capacity	222.6	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	143.1	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
79.5 cfm	3.0 sones
☒ HVI Approved	

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

SUPPLEMENTAL FANS		PANASONIC	
Location	Model	cfm	HVI
ENS	FV-05-11VK1	50	☒
S-ENS	FV-05-11VK1	50	☒
ENS-3	FV-05-11VK1	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 cfm low	
75 % 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:	August-20

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: 19689 *Michael O'Rourke* MICHAEL O'ROURKE

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

LO#: 87254

Model: MOUNTAINASH 6

Builder: GREENPARK HOMES

Date: 27/08/2020

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1497	9	13473
First	1497	11	16467
Second	1903	9	17127
Third	0	9	0
Fourth	0	9	0
Total:			47,067.0 ft³
Total:			1332.8 m³

WINTER NATURAL AIR CHANGE RATE	0.373
SUMMER NATURAL AIR CHANGE RATE	0.134

Design Temperature Difference

	T _{in} °C	T _{out} °C	ΔT °C	ΔT °F
Winter DTD _h	22	-17	39	71
Summer DTD _c	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage
6.2.6 Sensible Gain due to Air Leakage

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

$$0.373 \times 370.22 \times 39^\circ\text{C} \times 1.2 = 6506 \text{ W}$$

$$= 22199 \text{ Btu/h}$$

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

$$0.134 \times 370.22 \times 7^\circ\text{C} \times 1.2 = 422 \text{ W}$$

$$= 1439 \text{ Btu/h}$$

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

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

$$80 \text{ CFM} \times 71^\circ\text{F} \times 1.08 \times 0.25 = 1515 \text{ Btu/h}$$

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

$$80 \text{ CFM} \times 13^\circ\text{F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$$

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)	HL _{airv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{level})
1	0.5	22,199	8,711	1.274
2	0.3		13,607	0.489
3	0.2		14,819	0.300
4	0		0	0.000
5	0		0	0.000

*HL_{airbv} = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HL_{airv} = 0

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: MOUNTAINASH 6	LOT 12	BUILDER: GREENPARK HOMES
SFQT: 3400	LO# 87254	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):	47067.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 55.0 ft	WIDTH: 36.0 ft	EXPOSED PERIMETER:	132.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	50.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package	
	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	-

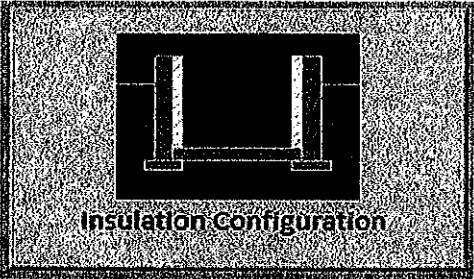
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

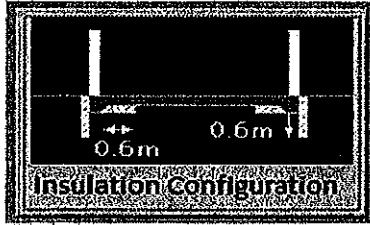
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	5.2	
Floor Width (m):	11.0	
Exposed Perimeter (m):	40.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.57	
Window Area (m ²):	0.9	
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):		734

TYPE: MOUNTAINASH 6
LO# 87254

LOT 12

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):	11.0	
Exposed Perimeter (m):	15.2	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		202

TYPE: MOUNTAINASH 6
LO# 87254

LOT 12

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):	8.84			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1332.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1776.6 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.373			
Cooling Air Leakage Rate (ACH/H):	0.134			

TYPE: MOUNTAINASH 6
LO# 87254

LOT 12

Permit No. **27-102414**

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

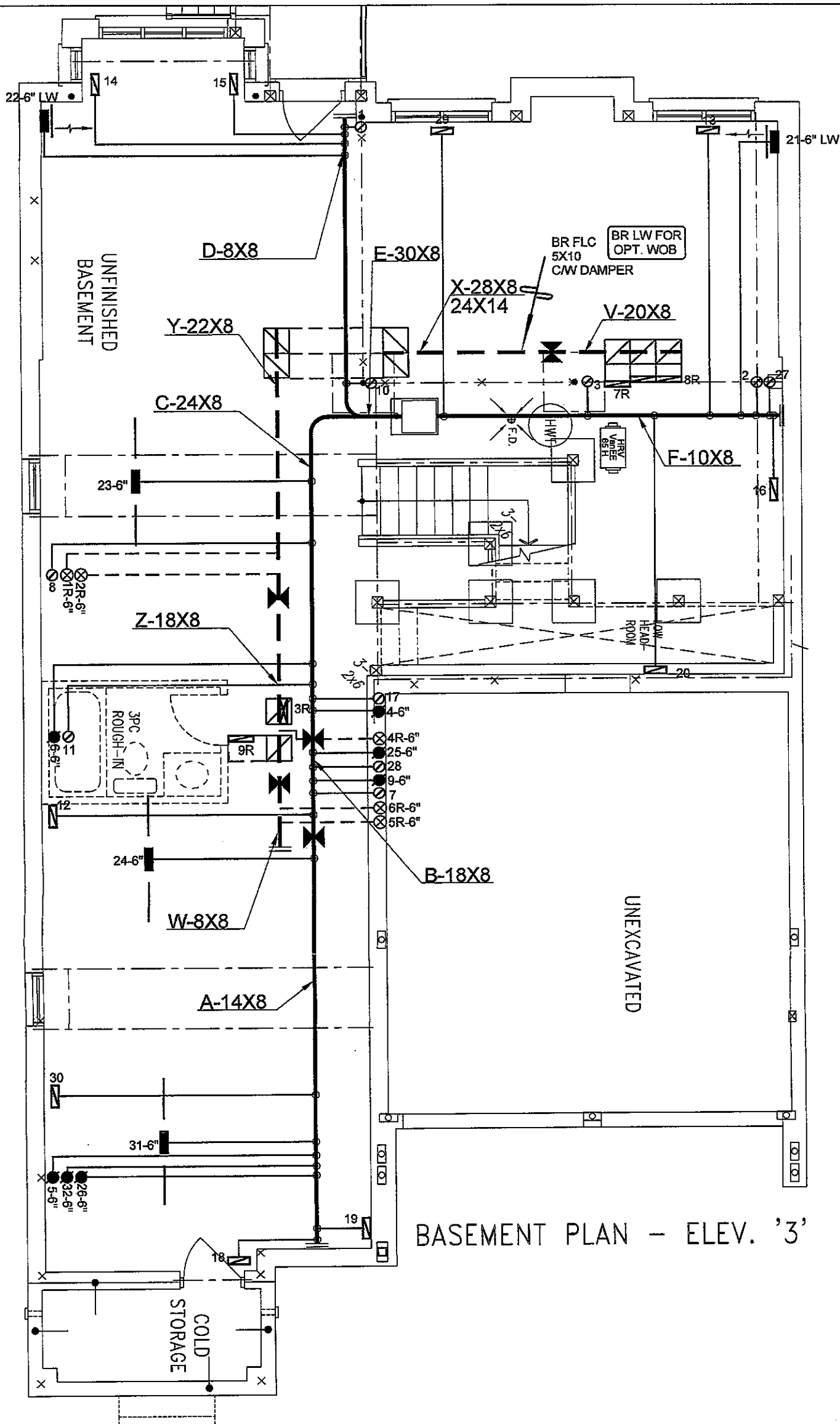
THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH
THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

FEB 17 2021

FOR THE BUILDING OFFICIAL

DATE



BASEMENT PLAN - ELEV. '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.

WOB CSA-F280-12
LOT 12 PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

3.		
2.		
1.		
No.	Description	Date
REVISIONS		

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USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE
USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE
ONTARIO BUILDING CODE.

Client
GREENPARK HOMES
Project Name
**RUSSEL GARDENS PHASE 3
HAMILTON, ONTARIO**
**LOT 12
MOUNTAINASH 6 3400 sqft**

HVACDESIGNS LTD.

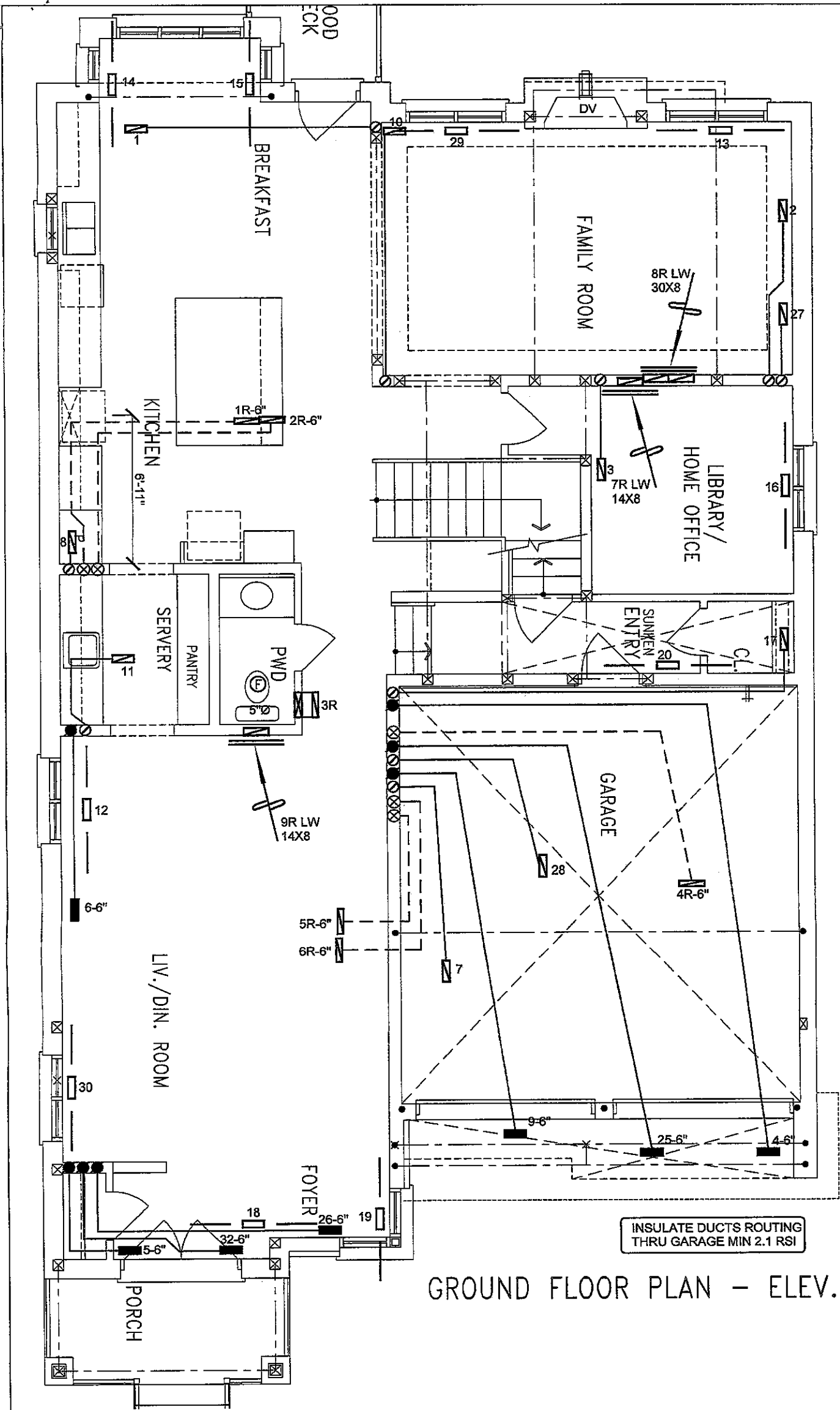
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

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 61795 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE GOODMAN	2ND FLOOR	17	6	4
MODEL GMEC960804CNA	1ST FLOOR	10	3	2
INPUT 80 MBTU/H	BASEMENT	5	1	0
OUTPUT 76.8 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			
COOLING 4.0 TONS				
FAN SPEED 1504 cfm @ 0.6" w.c.				

Sheet Title	BASEMENT HEATING LAYOUT
Date	AUG/2020
Scale	3/16" = 1'-0"
BCIN#	19669
LO#	87254



GROUND FLOOR PLAN - ELEV. '3'

CITY OF HAMILTON
Building Division

Permit No. **21-102414**

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

FOR CHIEF BUILDING OFFICIAL

FEB 1 DATE 2021

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION 2, 3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOB CSA-F280-12
LOT 12 PACKAGE A1

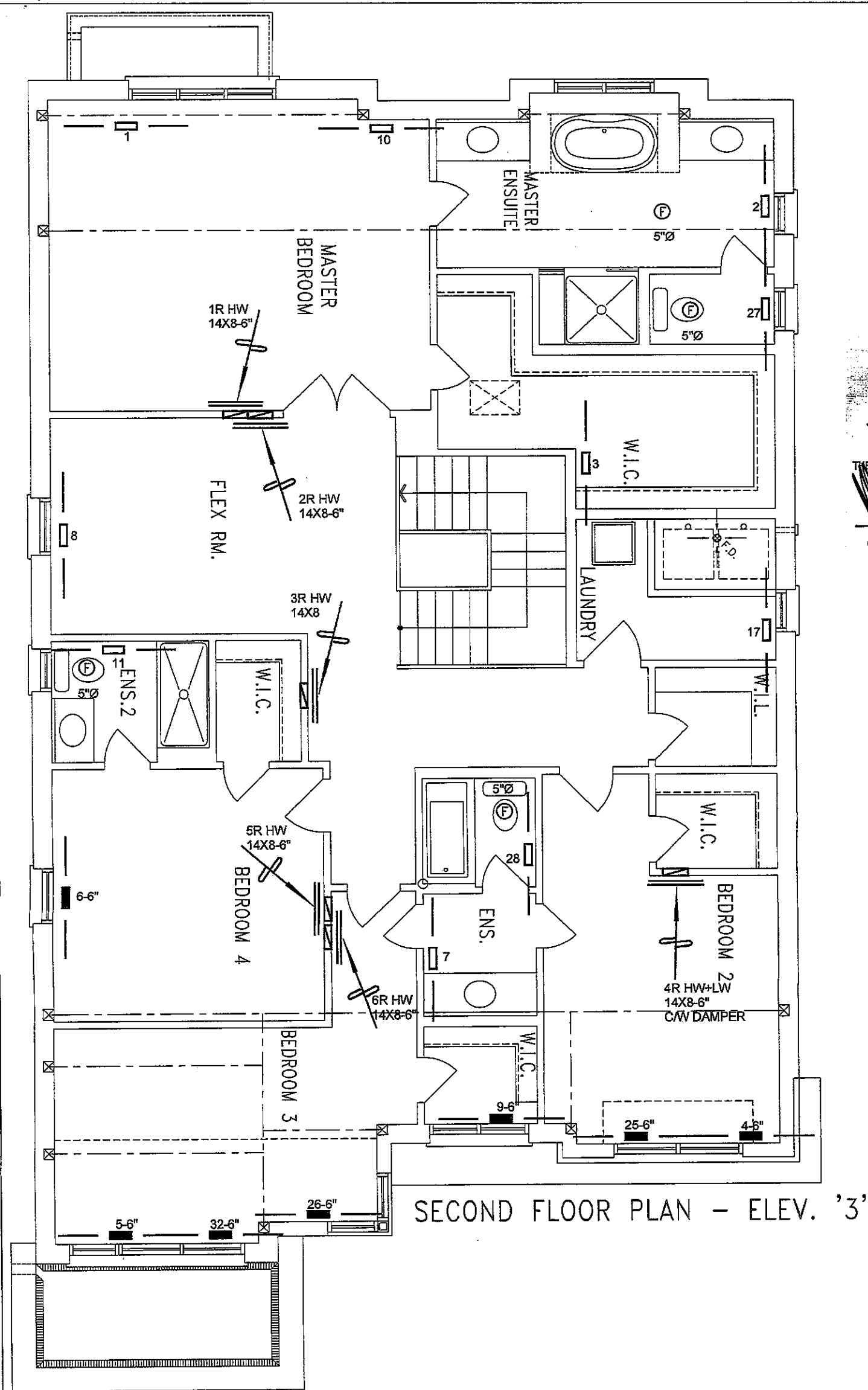
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY 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 12
MOUNTAINASH 6 3400 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
AUG/2020
Scale
3/16" = 1'-0"
BCIN# 19669
LO# 87254



SECOND FLOOR PLAN - ELEV. '3'

CITY OF HAMILTON
Building Division
Permit No. 29-102414
THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE
THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW
These drawings and/or specifications have been reviewed by
FOR THE BUILDING OFFICIAL
DATE FEB 17 2021

I MICHAEL OROURKE 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
HVAC DESIGNS LTD.

WOB CSA-F280-12
LOT 12 PACKAGE A1

HVAC LEGEND								3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
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	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 12
MOUNTAINASH 6 3400 sqft**

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Sheet Title

**SECOND FLOOR
HEATING
LAYOUT**

Date

AUG/2020

Scale

3/16" = 1'-0"

BCIN# 19669

LO# **87254**