

ROOM USE	L/D		FM		K/B		L/H		LND		W/R		FOY		W/B		BAS						
EXP. WALL	38		33		35		27		31		7		18		27		181						
CLG. HT.	10		10		10		10		10		10		10		9		9						
FACTORS																							
GRS.WALL AREA	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		1057						
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN						
NORTH	19.8	14.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	69	44				
EAST	19.8	37.5	0	0	0	0	0	0	40	791	1610	0	0	0	6	119	227	0	0				
SOUTH	19.8	22.8	36	712	820	0	0	0	7	138	169	0	0	0	7	138	169	0	0				
WEST	19.8	37.6	0	0	0	34	672	1284	67	1324	2530	0	0	0	0	0	0	6	119	137			
SKYLT.	34.8	101.5	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	12	281	51	0	0	0	0	0	0	0	0	0			
NET EXPOSED WALL	4.1	0.6	284	1094	198	296	1227	222	284	1094	198	257	1065	193	282	1169	212	23	95	17	134	656	161
NET EXPOSED BASMT 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
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	0	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
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
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0		
SUBTOTAL HT LOSS			1806			1899			2839			1856			1796			1172			1612		
SUB TOTAL HT GAIN				1018			1506		2938				1703										
LEVEL FACTOR / MULTIPLIER	0.30	0.36				0.30	0.36		0.30	0.36		0.30	0.36		0.30	0.36		0.30	0.36		0.30	0.36	
AIR CHANGE HEAT LOSS			665				689		1030				673			851		0.30	0.36		426		585
AIR CHANGE HEAT GAIN				74			109			215			123			30			25			0	36
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	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				514			514			514			514			514			514			514	
TOTAL HT LOSS BTU/H			2461				2588			3868			2529			2448			1597			2197	
TOTAL HT GAIN x 1.3 BTU/H				2087			2768			4754			3043			1246			483			693	

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

AUG 25 2021

REC BY _____
REF'D TO _____

DATE _____
DATE _____

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TOTAL COMBINED HEAT LOSS BTU/H: 52320

Michael Rourke

INDIVIDUAL BCIN: 19569

MICHAEL O'BRIEN

SITE NAME: RUSSELL GARDENS PH 4
BUILDER: GREENPARK HOMESOPT 5 BED - WUB
TYPE: MOUNTAINASH 3

DATE: Jul-21

GFA: 3072 LO# 91955

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 50,502 TOTAL HEAT GAIN 36,129
AIR FLOW RATE CFM 22.4 AIR FLOW RATE CFM 31.3furnace 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 r/a pressure 0.17
max s/a diff press. loss 0.02 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.16 adjusted pressure r/a 0.15#GOODMAN
GMEC980603BNA 60
FAN SPEED LOW
MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600DESIGN CFM = 1131
CFM @ 6" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	4
R/A	0	0	6	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	BED-2	ENS	WIC-3	BED-3	BED-4	BED-5	ENS-1	BED-3	BED-4	MBR	S-ENS	L/D	FM	K/B	K/B	L/H	LND	W/R	FOY	MBR	BAS	BAS	BAS	BAS
RM LOSS MBH	1.89	1.01	0.95	1.79	1.71	1.54	1.24	1.78	1.71	1.65	0.52	2.46	2.59	1.93	1.93	2.53	2.45	1.60	2.20	1.65	3.89	3.89	3.89	3.89
CFM PER RUN HEAT	38	23	21	40	38	34	28	40	38	37	12	55	58	43	43	57	55	36	49	37	87	87	87	87
RM GAIN MBH	2.17	0.70	1.16	2.14	2.35	1.86	0.44	2.14	2.35	1.88	0.33	2.09	2.77	2.38	2.38	3.04	1.25	0.48	0.89	1.88	0.41	0.41	0.41	0.41
CFM PER RUN COOLING	68	22	36	67	73	58	14	67	73	59	10	65	87	75	75	95	39	15	22	59	13	13	13	13
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	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	57	19	43	51	48	32	61	56	47	46	30	17	47	23	33	37	47	16	35	22	62	19	4	22
EQUIVALENT LENGTH	140	150	110	120	150	180	130	130	160	160	190	120	120	140	100	150	110	150	100	140	150	110	130	130
TOTAL EFFECTIVE LENGTH	197	189	153	171	198	212	191	186	207	206	220	137	167	163	133	187	157	166	135	162	212	129	134	152
ADJUSTED PRESSURE	0.09	0.1	0.11	0.1	0.09	0.08	0.09	0.09	0.08	0.08	0.08	0.13	0.1	0.11	0.13	0.09	0.11	0.1	0.13	0.11	0.08	0.13	0.12	0.11
ROUND DUCT SIZE	5	4	4	5	5	6	4	5	5	5	4	5	6	6	6	6	5	4	4	5	6	6	6	6
HEATING VELOCITY (ft/min)	279	264	241	294	279	173	321	294	279	272	138	404	296	219	219	291	404	413	562	272	444	444	444	444
COOLING VELOCITY (ft/min)	498	252	413	492	536	296	161	492	536	433	115	477	444	382	382	484	286	172	252	433	66	66	66	66
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	D	D	C	B	A	D	C	A	C	D	A	B	B	C	A	C	C	B	A	B	D	C

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

AUG 25 2021

REC BY _____ DATE _____

REF'D TO _____ DATE _____

CITY OF HAMILTON
Building Division

Permit No. 20-196110-02

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

SEP 28 2021

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	303	0.08	9	10	545
TRUNK B	570	0.08	11.4	16	641
TRUNK C	317	0.08	9.1	10	571
TRUNK D	560	0.08	11.3	14	720
TRUNK E	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	0
TRUNK H	0	0.00	0	0	0
TRUNK I	0	0.00	0	0	0
TRUNK J	0	0.00	0	0	0
TRUNK K	0	0.00	0	0	0
TRUNK L	0	0.00	0	0	0
TRUNK O	0	0.05	0	0	0
TRUNK P	0	0.05	0	0	0
TRUNK Q	0	0.05	0	0	0
TRUNK R	0	0.05	0	0	0
TRUNK S	0	0.05	0	0	0
TRUNK T	0	0.05	0	0	0
TRUNK U	0	0.05	0	0	0
TRUNK V	0	0.05	0	0	0
TRUNK W	0	0.05	0	0	0
TRUNK X	801	0.05	14.5	24	601
TRUNK Y	555	0.05	12.7	18	555
TRUNK Z	175	0.05	8.2	8	394
DROP	1131	0.05	16.5	24	679

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	75	100	85	95	75	380	75	100	0	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.	56	58	52	56	51	31	33	60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	215	235	195	165	255	195	220	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	271	293	247	221	308	226	253	300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	6	6.7	6	6	6	10.1	5.7	6.7	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	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	0	0	0	0	0	0	0	0	0

AUG 25 2021

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: MOUNTAINASH 3
SITE NAME: RUSSELL GARDENS PH 4

REC BY _____ DATE _____
LO# 51855
REF'D TO _____ DATE _____
PT 5 BED - WUB

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

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	116.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANE V150H Location: BSMT

95.4 cfm 3.0 sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
95.4 CFM	71.6	1.08	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: VANE V150H

150 cfm high 35 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

CITY OF HAMILTON
Building Division

Name: _____

Address: _____

City: _____ Permit No. 20-196110-02

Telephone #: _____ THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

Fax #: _____

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

Name: _____ These drawings and/or specifications have been reviewed by _____

Address: _____ **SEP 28 2021**

City: _____ FOR CHIEF BUILDING OFFICIAL DATE _____

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: _____

HRAI #: 001820

Date: July-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																								
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																								
LO#: 91955		Model: MOUNTAINASH 3		Builder: GREENPARK HOMES																																																				
				Date: 2021-07-28																																																				
Volume Calculation			Air Change & Delta T Data																																																					
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>1378</td><td>9</td><td>12402</td></tr> <tr><td>First</td><td>1378</td><td>10</td><td>13780</td></tr> <tr><td>Second</td><td>1694</td><td>9</td><td>15246</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="2" style="text-align: right;">Total:</td><td></td><td>41,428.0 ft³</td></tr> <tr><td colspan="2" style="text-align: right;">Total:</td><td></td><td>1173.1 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1378	9	12402	First	1378	10	13780	Second	1694	9	15246	Third	0	9	0	Fourth	0	9	0	Total:			41,428.0 ft³	Total:			1173.1 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>WINTER NATURAL AIR CHANGE RATE</td> <td>0.300</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.107</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-17</td> <td>39</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.300	SUMMER NATURAL AIR CHANGE RATE	0.107	Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-17	39	Summer DTDc	24	31	7
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																					
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																					
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.300 x 325.86 x 39 °C x 1.2 = 4599 W = 15693 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ 0.107 x 325.86 x 7 °C x 1.2 = 298 W = 1018 Btu/h																																																					
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																					
$HL_{vatrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 95 CFM x 71 °F x 1.08 x 0.25 = 1819 Btu/h			$HL_{vatrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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)																																																								
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HL_{level})</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5">15,693</td><td>7,707</td><td>1.018</td></tr> <tr><td>2</td><td>0.3</td><td>12,981</td><td>0.363</td></tr> <tr><td>3</td><td>0.2</td><td>13,286</td><td>0.236</td></tr> <tr><td>4</td><td>0</td><td>0</td><td>0.000</td></tr> <tr><td>5</td><td>0</td><td>0</td><td>0.000</td></tr> </tbody> </table>					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	15,693	7,707	1.018	2	0.3	12,981	0.363	3	0.2	13,286	0.236	4	0	0	0.000	5	0	0	0.000																										
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*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	OPT 5 BED - WUB	BUILDER: GREENPARK HOMES
SFQT: 3072	LO# 91955	SITE: RUSSELL 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):	41428.0	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:	7.0 ft
LENGTH: 53.0 ft	WIDTH: 36.0 ft	EXPOSED PERIMETER:	151.0 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 cl	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	-

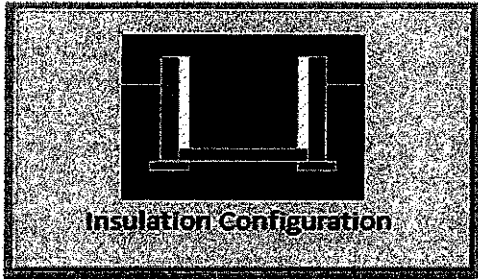
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

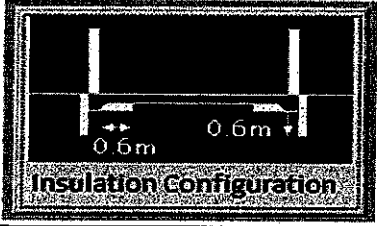
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.2	 Insulation Configuration
Floor Width (m):	11.0	
Exposed Perimeter (m):	46.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	2.13	
Window Area (m ²):	0.8	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1294

TYPE: MOUNTAINASH 3
LO# 91955

OPT 5 BED - WUB

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):	1.8	
Width (m):	4.6	
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):	70	

TYPE: MOUNTAINASH 3
LO# 91955

OPT 5 BED - WUB

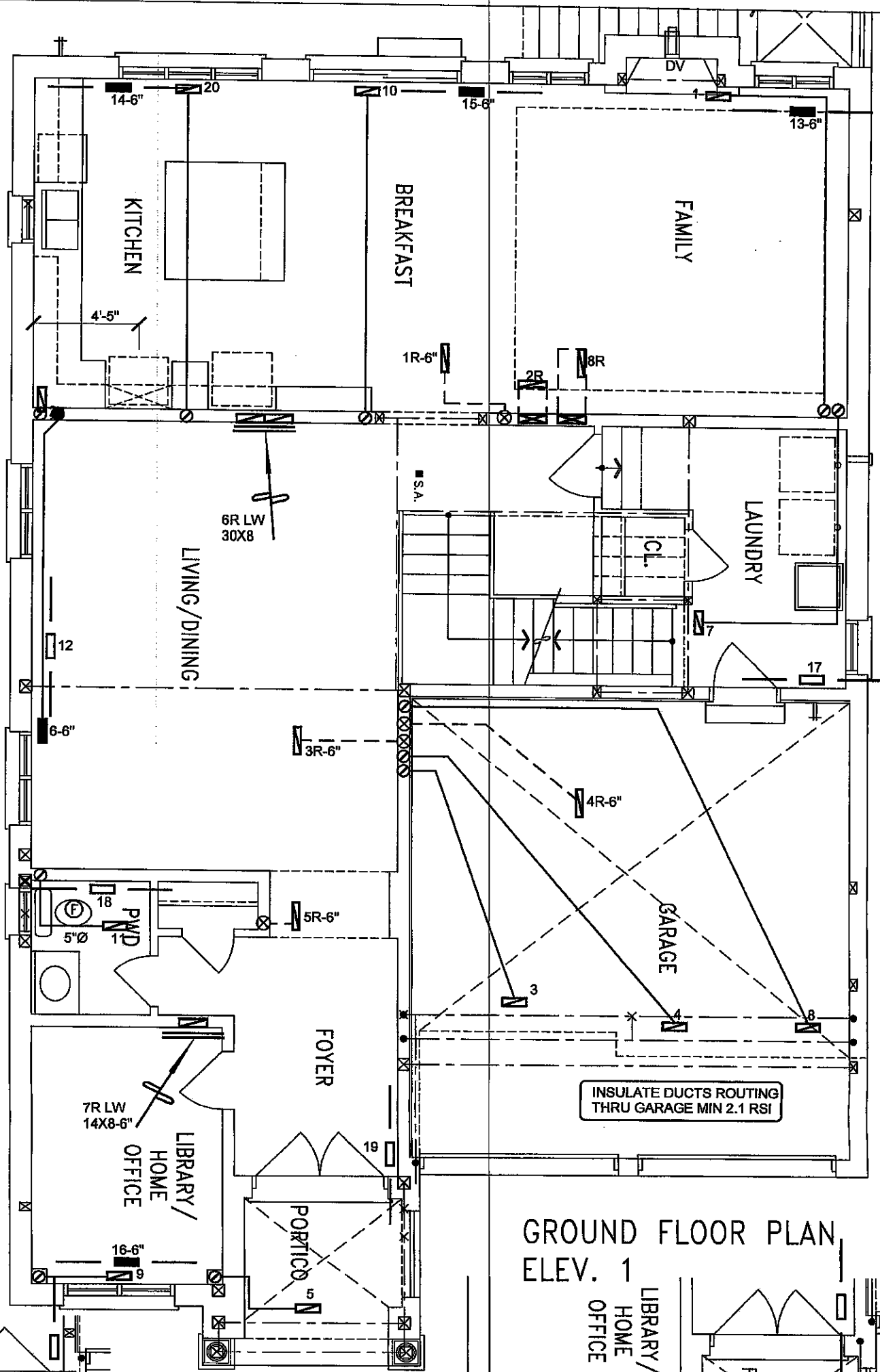
Air Infiltration Residential Load Calculator

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):	6.40			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1173.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1563.8 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):	0.300			
Cooling Air Leakage Rate (ACH/H):	0.107			

TYPE: MOUNTAINASH 3
LO# 91955

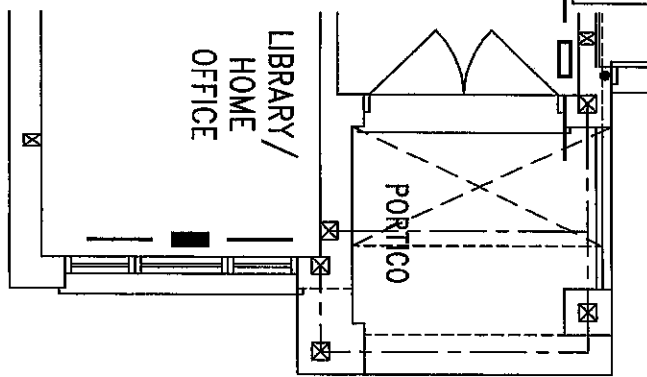
OPT 5 BED - WUB



CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

AUG 25 2021

REC BY _____ DATE _____
REF'D TO _____ DATE _____



GROUND FLOOR PLAN
ELEV. 3

I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.

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

CITY OF HAMILTON
Building Division

Permit No. 20-196110-02

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

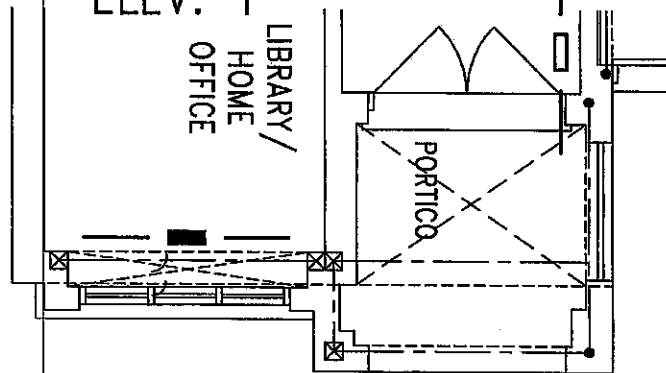
THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

ADD SEP 28 2021

FOR CHIEF BUILDING OFFICIAL DATE

GROUND FLOOR PLAN
ELEV. 1



GROUND FLOOR PLAN
ELEV. 2

CSA-F280-12

WUB 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

No.	Description	Date
3.		
2.		
1.		

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Client

GREENPARK HOMES

Project Name

**RUSSELL GARDENS PH 4
HAMILTON, ONTARIO**

**OPT 5 BED - WUB
MOUNTAINASH 3 3072 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.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**

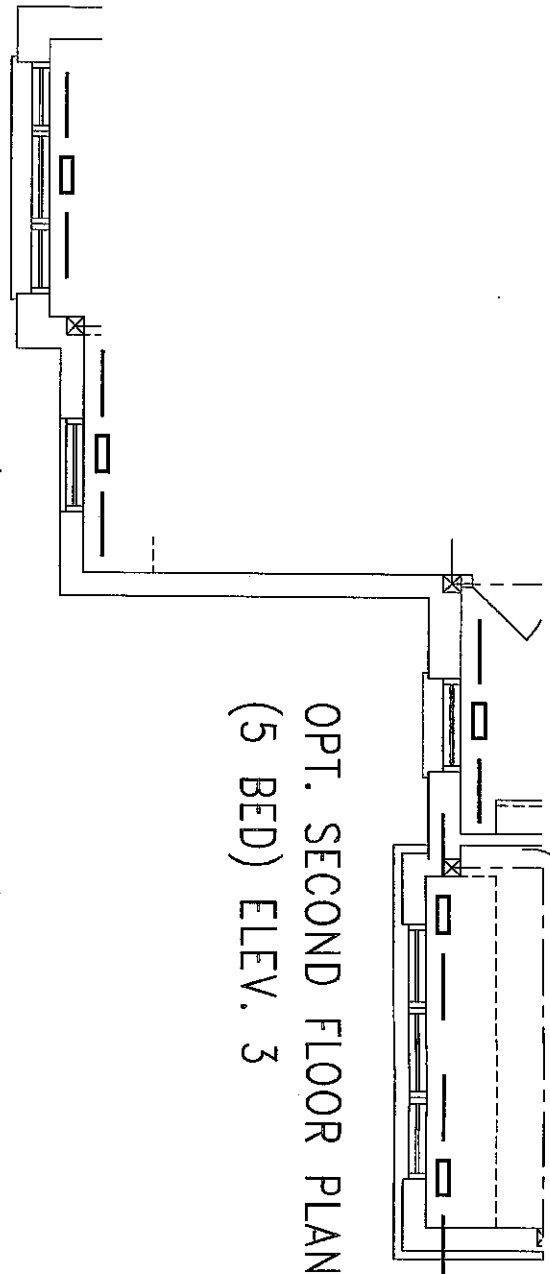
Date **JULY/2021**

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

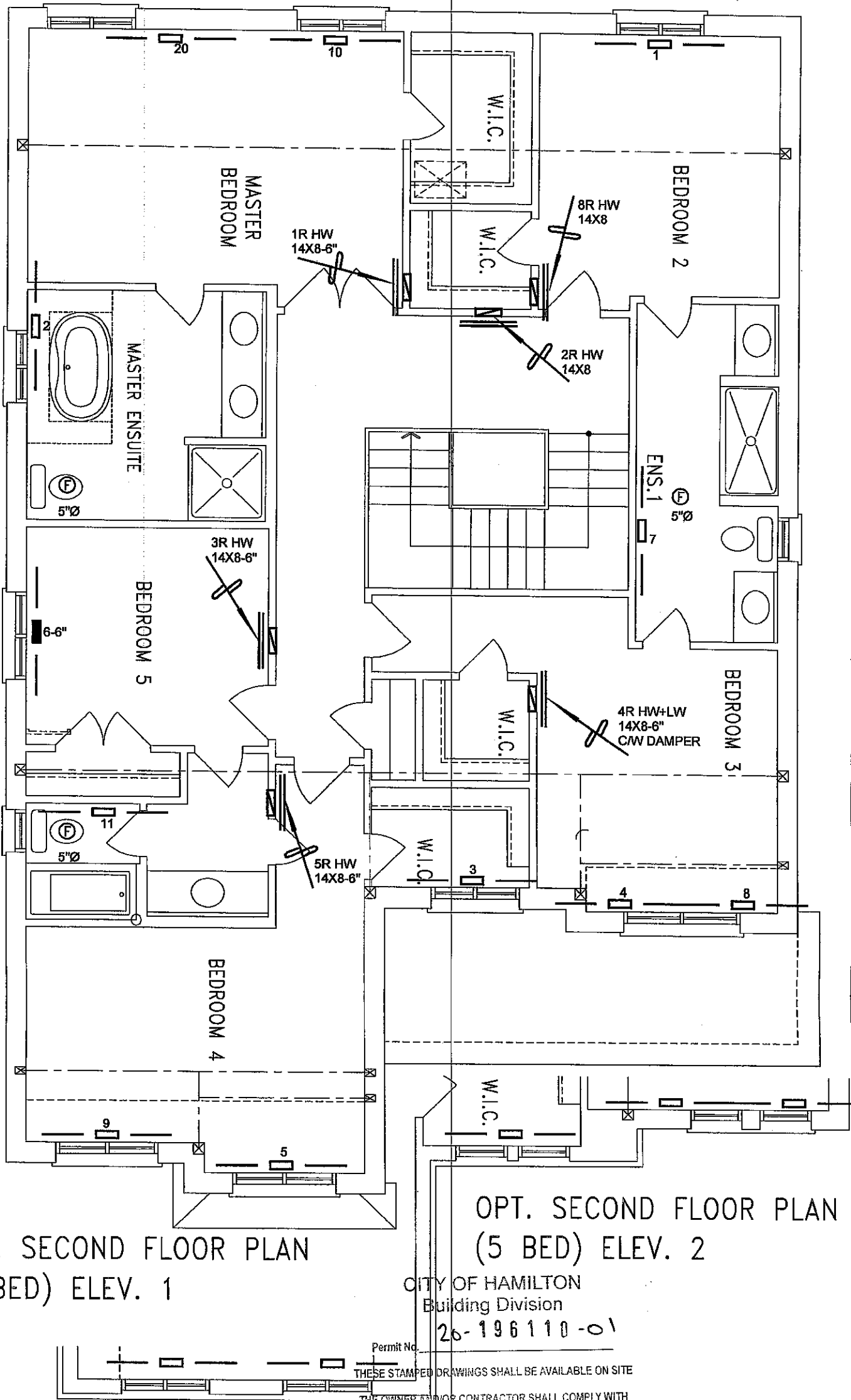
BCIN# 19669

LO# **91955**

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department
AUG 25 2021
REC BY _____ DATE _____
REF'D _____



OPT. SECOND FLOOR PLAN
(5 BED) ELEV. 1



OPT. SECOND FLOOR PLAN
(5 BED) ELEV. 2

CITY OF HAMILTON
Building Division
Permit No. 26-196110-01

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
SEP 18 2021
FOR CHIEF BUILDING OFFICIAL

CSA-F280-12
WUB PACKAGE A1

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.	
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Client GREENPARK HOMES Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO OPT 5 BED - 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 SECOND FLOOR HEATING LAYOUT Date JULY/2021 Scale 3/16" = 1'-0" BCIN# 19669 LO# 91955