

SITE NAME: RUSSELL GARDENS PH 4				WUB				DATE: Oct-21				WINTER NATURAL AIR CHANGE RATE 0.310				HEAT LOSS ΔT °F. 71				CSA-F280-12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
BUILDER: GREENPARK HOMES				TYPE: VALLEYCREEK 12A				GFA: 2733				SUMMER NATURAL AIR CHANGE RATE 0.111				HEAT GAIN ΔT °F. 13				SB-12 PACKAGE A1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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ROOM USE	EXP. WALL	CLG. HT.	FACTORS	DIN	K/B/F	L/H	LND	W/R	FOY	WUB	BAS
				15	75	39	7	23	18	20	148
				10	10	10	9	11	10	9	9
GRS.WALL AREA	LOSS	GAIN		150	750	390	63	263	180	180	888
GLAZING	LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	19.8	16.0	0	0	0	12	237	192	0	0	0
EAST	19.8	41.6	0	0	0	42	830	1745	0	0	5
SOUTH	19.8	24.9	42	830	1046	40	791	996	42	830	99
WEST	19.8	41.6	0	0	0	89	1759	3698	0	0	208
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	10
DOORS	23.5	4.3	0	0	0	0	0	0	0	0	198
NET EXPOSED WALL	4.1	0.8	108	448	81	609	2525	458	306	1269	230
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	10	26	13	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			1278		5338	2929	736	1544	160	174	4760
SUB TOTAL HT GAIN				1127	5356	3021	676	367	160	1306	7109
LEVEL FACTOR / MULTIPLIER	0.30	0.34			0.30	0.34	0.20	0.21	0.30	0.34	0.50
AIR CHANGE HEAT LOSS			429		1794	984	158	519	841	205	881
AIR CHANGE HEAT GAIN				61	288	162	36	20	29		59
DUCT LOSS			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				760	760	760	760	760	0	0	760
TOTAL HT LOSS BTU/H			1707		7131	3913	894	2063	2150	1306	14220
TOTAL HT GAIN x 1.3 BTU/H				2632	8325	5126	1916	502	758	267	2223

TOTAL HEAT GAIN BTU/H:

42002

TONS: 3.50

LOSS DUE TO VENTILATION LOAD BTU/H: 1515

STRUCTURAL HEAT LOSS: 49210

TOTAL COMBINED HEAT LOSS BTU/H: 60726



SITE NAME: RUSSELL GARDENS PH 4
BUILDER: GREENPARK HOMES

WUB
TYPE: VALLEYCREEK 12A

DATE: Oct-21

GFA: 2733 LO# 93029

HEATING CFM 1504 COOLING CFM 1504
TOTAL HEAT LOSS 49,210 TOTAL HEAT GAIN 41,727
AIR FLOW RATE CFM 30.56 AIR FLOW RATE CFM 36.04

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
FAN SPEED LOW 868
MEDLOW 978
MEDIUM 1112
MEDIUM HIGH 1504
HIGH 1615

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

DESIGN CFM = 1504
CFM @ .8" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	8	5
R/A	0	0	5	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	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-3	BED-3	MBR	ENS-3	BED-4	DIN	K/B/F	K/B/F	L/H	LND	W/R	FOY	K/B/F	BAS	BAS	BAS	BAS
RM LOSS MBH	1.30	2.65	0.43	1.48	1.59	1.51	0.65	0.83	1.59	1.30	0.49	1.51	1.71	2.38	2.38	1.96	0.89	2.06	2.15	2.38	3.11	3.11	3.11	3.11
CFM PER RUN HEAT	40	81	13	45	49	46	20	25	49	40	15	46	52	73	73	60	27	63	66	73	95	95	95	95
RM GAIN MBH	2.28	2.30	0.14	2.20	2.14	2.38	0.50	0.94	2.14	2.28	0.20	2.38	2.53	2.78	2.78	2.56	1.91	0.50	0.75	2.78	0.50	0.50	0.50	0.50
CFM PER RUN COOLING	82	83	5	79	77	86	18	34	77	82	7	86	91	100	100	92	69	18	27	100	18	18	18	18
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	44	41	18	44	52	53	40	48	56	31	41	51	26	21	23	48	32	23	37	37	21	48	7	21
EQUIVALENT LENGTH	130	140	100	210	160	230	191	210	160	130	170	200	110	110	110	140	130	150	190	100	110	140	100	120
TOTAL EFFECTIVE LENGTH	174	181	118	254	212	283	231	258	216	161	211	251	136	131	133	188	162	173	227	137	131	188	107	141
ADJUSTED PRESSURE	0.09	0.09	0.15	0.07	0.08	0.06	0.07	0.07	0.08	0.1	0.08	0.06	0.12	0.12	0.12	0.09	0.11	0.1	0.08	0.12	0.12	0.09	0.15	0.11
ROUND DUCT SIZE	6	6	4	6	6	6	4	4	6	6	4	6	6	6	6	6	5	5	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	204	413	149	229	250	235	229	287	250	204	172	235	265	372	372	306	198	463	485	372	484	484	484	484
COOLING VELOCITY (ft/min)	418	423	57	403	393	438	207	390	393	418	80	438	464	510	510	469	507	132	198	510	92	92	92	92
OUTLET GRILL SIZE	4X10	4X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	F	E	F	B	B	A	B	A	B	E	B	A	C	D	D	A	C	C	A	E	D	E	F	C

RUN #	25	26	27
ROOM NAME	ENS-3	L/H	BAS
RM LOSS MBH	0.49	1.96	3.11
CFM PER RUN HEAT	15	60	95
RM GAIN MBH	0.20	2.56	0.50
CFM PER RUN COOLING	7	92	18
ADJUSTED PRESSURE	0.17	0.16	0.16
ACTUAL DUCT LGH	47	43	40
EQUIVALENT LENGTH	180	170	130
TOTAL EFFECTIVE LENGTH	227	213	170
ADJUSTED PRESSURE	0.08	0.08	0.1
ROUND DUCT SIZE	4	6	6
HEATING VELOCITY (ft/min)	172	306	484
COOLING VELOCITY (ft/min)	80	469	92
OUTLET GRILL SIZE	3X10	4X10	4X10
TRUNK	B	A	A

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK A	398	0.06	10.7	14	X	8
TRUNK B	591	0.06	12.4	20	X	8
TRUNK C	828	0.06	14	24	X	8
TRUNK D	241	0.12	7.4	8	X	8
TRUNK E	289	0.09	8.6	8	X	8
TRUNK F	678	0.09	11.8	16	X	8

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	170	155	115	135	410	155	130	0	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	50	37	62	61	32	45	37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	195	255	235	160	220	205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	235	232	317	296	192	265	242	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.06	0.05	0.05	0.08	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	14.80	14.80
ROUND DUCT SIZE	7.8	7.5	7	7.5	10	7.5	7	0	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	0	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	30	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	X	8
TRUNK H	0	0.00	0	0	X	8
TRUNK I	0	0.00	0	0	X	8
TRUNK J	0	0.00	0	0	X	8
TRUNK K	0	0.00	0	0	X	8
TRUNK L	0	0.00	0	0	X	8
TRUNK O	0	0.05	0	0	X	8
TRUNK P	0	0.05	0	0	X	8
TRUNK Q	0	0.05	0	0	X	8
TRUNK R	0	0.05	0	0	X	8
TRUNK S	0	0.05	0	0	X	8
TRUNK T	0	0.05	0	0	X	8
TRUNK U	0	0.05	0	0	X	8
TRUNK V	290	0.05	9.9	12	X	8
TRUNK W	535	0.05	12.5	18	X	8
TRUNK X	1504	0.05	18.4	32	X	10
TRUNK Y	580	0.05	12.9	20	X	8
TRUNK Z	410	0.05	11.3	14	X	8
DROP	1504	0.05	18.4	24	X	14

TYPE: VALLEYCREEK 12A
SITE NAME: RUSSELL GARDENS PH 4

LO # 93029
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	<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>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</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>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>111.3</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>79.5</u> cfm	<u>3.0</u> 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 Sones
ENS	FV-05-11VK1	50	☒ 0.3
ENS-2	FV-05-11VK1	50	☒ 0.3
ENS-3	FV-05-11VK1	50	☒ 0.3
W/R	FV-05-11VK1	50	☒ 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11
Model: VANEE V150H		
<u>150</u> cfm high	<u>35</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:	October-21

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

LO#: 93029

Model: VALLEYCREEK 12A

Builder: GREENPARK HOMES

Date: 2021-10-19

Volume Calculation
House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1177	9	10593
First	1177	10	11770
Second	1556	9	14004
Third	0	9	0
Fourth	0	9	0
Total:			36,367.0 ft ³
Total:			1029.8 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.310
SUMMER NATURAL AIR CHANGE RATE	0.111

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

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

0.310 x 286.06 x 39 °C x 1.2 = 4169 W

= 14224 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

= 0.111 x 286.06 x 7 °C x 1.2 = 271 W

= 923 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

80 CFM x 71 °F x 1.08 x 0.25 = 1515 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

80 CFM x 13 °F x 1.08 x 0.25 = 275 Btu/h

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

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$$

Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{clevel})
1	0.5	14,224	8,415	0.845
2	0.3		12,698	0.336
3	0.2		13,286	0.214
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 HLairv = 0

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: VALLEYCREEK 12A	WUB	BUILDER: GREENPARK HOMES
SFQT: 2733	LO# 93029	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:	SOUTH	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):	36367.0	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: 52.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	148.0 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	-

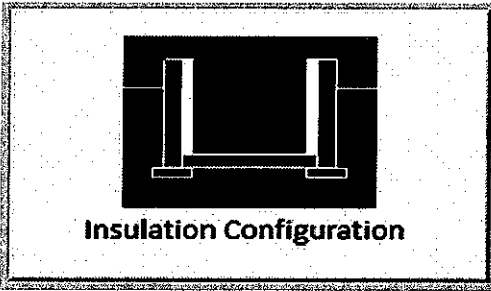
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

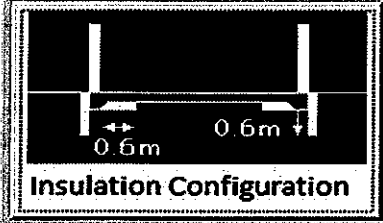
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	45.1	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.9	
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):		1395

TYPE: VALLEYCREEK 12A
LO# 93029

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):	1.5	
Width (m):	4.6	
Exposed Perimeter (m):	6.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		51

TYPE: VALLEYCREEK 12A
LO# 93029

WUB

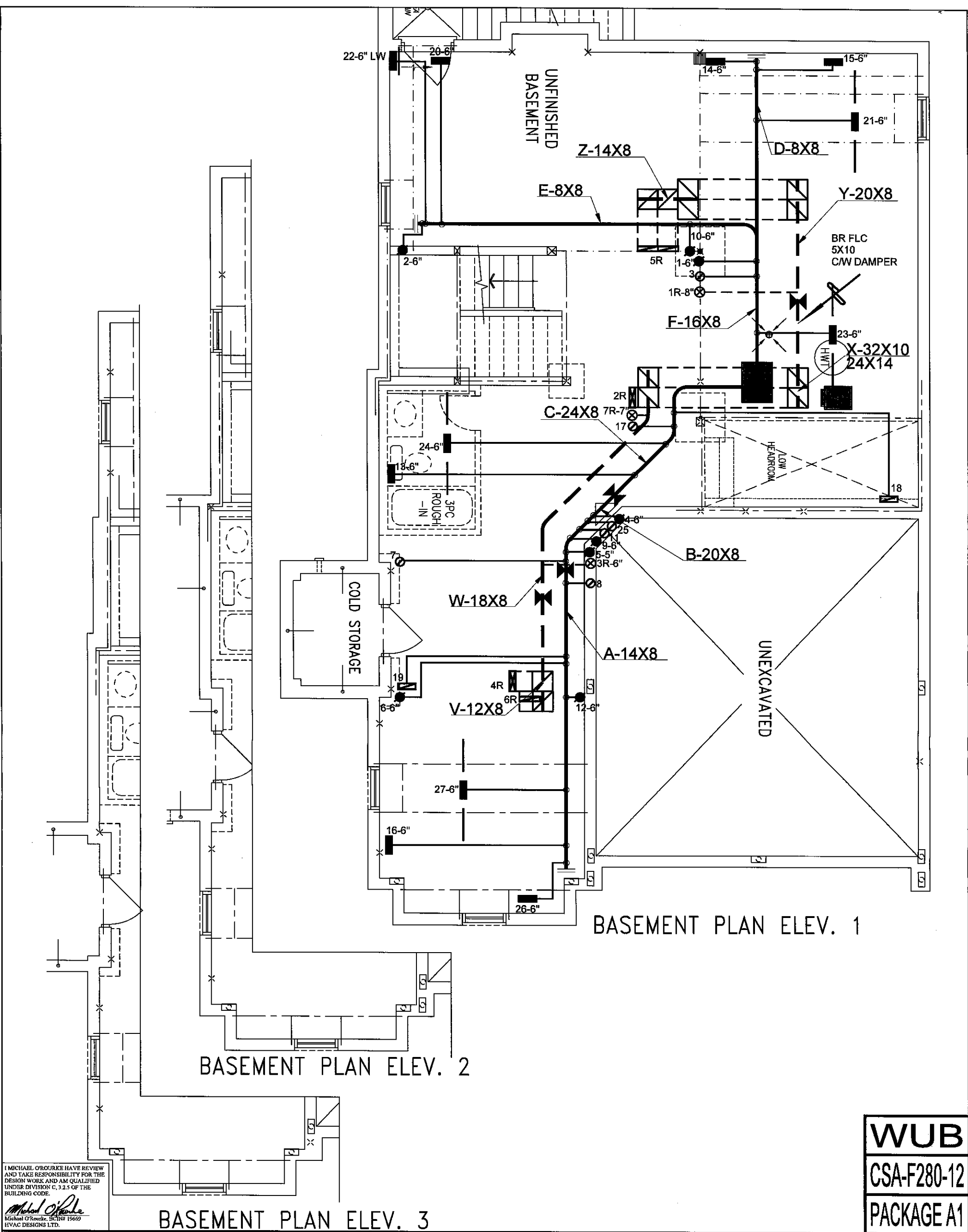
Air Infiltration Residential Load Calculator

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):	6.71		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1029.8		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1372.8 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):	0.310		
Cooling Air Leakage Rate (ACH/H):	0.111		

TYPE: VALLEYCREEK 12A
LO# 93029

WUB

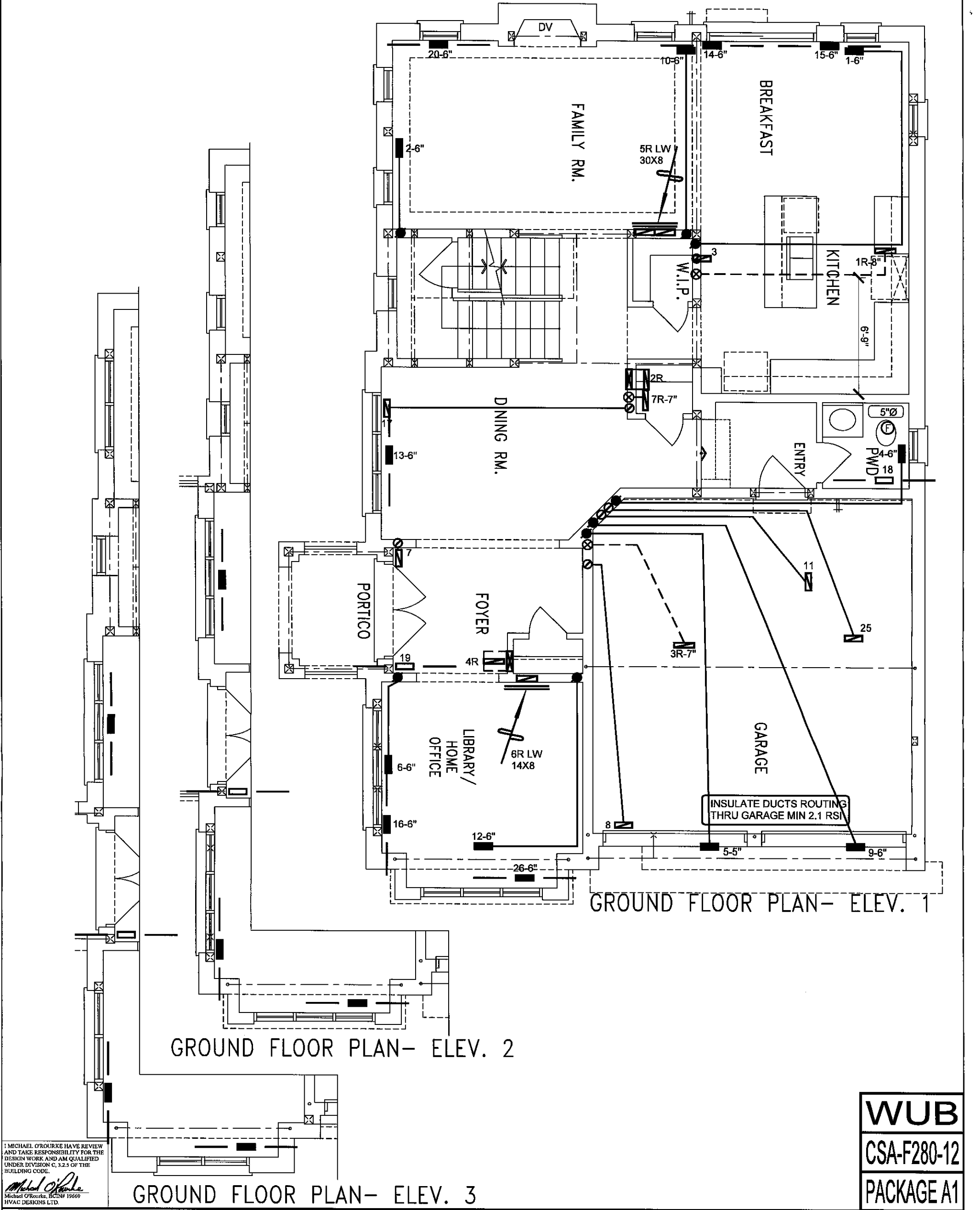


I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND								
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	3.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x6" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	2.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	1.
REVISIONS								
No.	Description	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.	HEAT LOSS 50726 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	14	5	3	
			INPUT 80 MBTU/H		1ST FLOOR	8	2	2	
			OUTPUT 76.8 MBTU/H		BASEMENT	5	1	0	
VALLEYCREEK 12A WUB 2733 sqft		COOLING 3.5 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			Date OCT/2021		
		FAN SPEED 1504 cfm @ 0.6" w.c.					Scale 3/16" = 1'-0"		
		BCIN# 19669							
							LO# 93029		



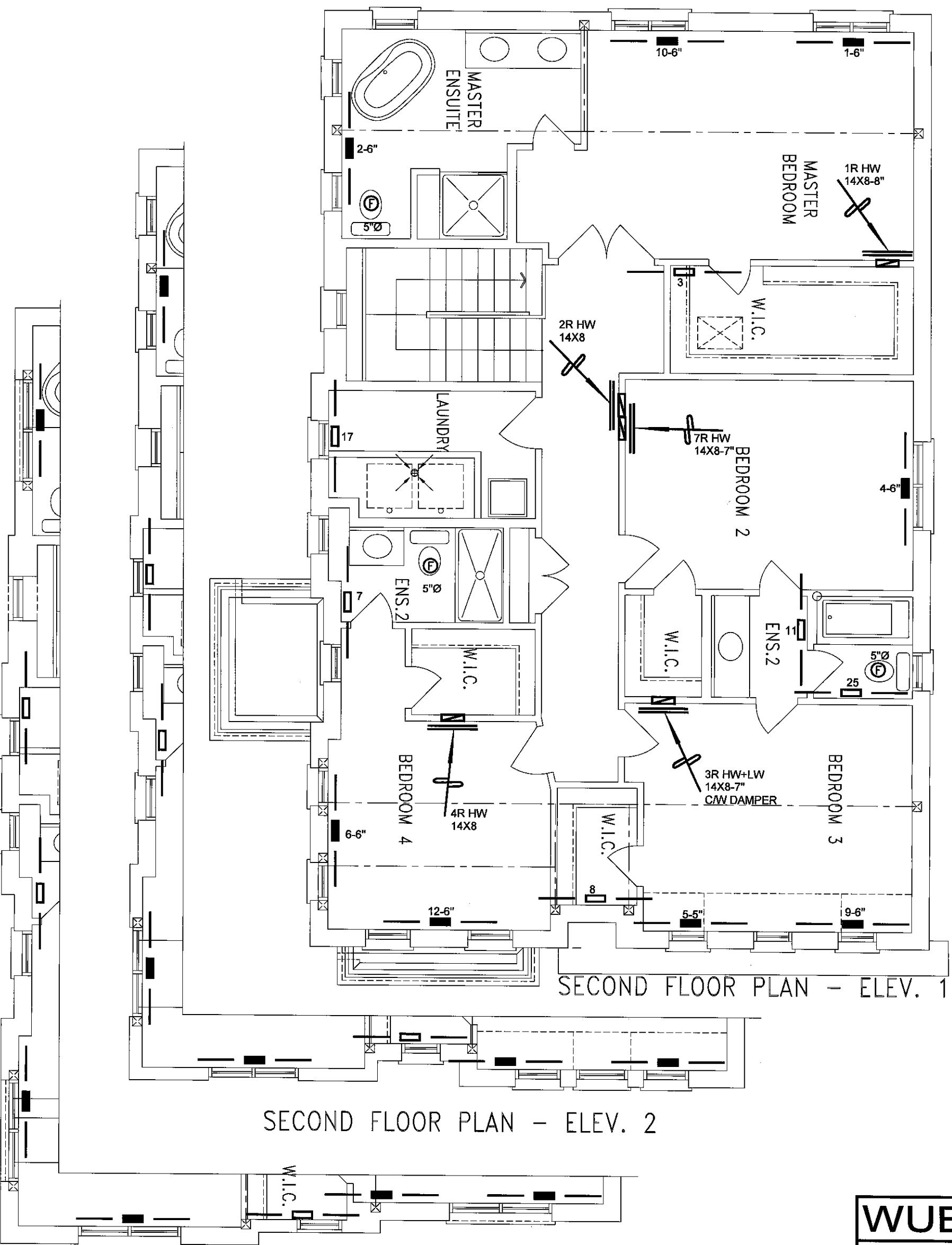
1 MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WUB
CSA-F280-12
PACKAGE A1

HVAC LEGEND							
	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
						REVISIONS	
						No.	Description
							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@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	
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO	VALLEYCREEK 12A WUB		Date OCT/2021	Scale 3/16" = 1'-0"
2733 sqft		BCIN# 19669		LO# 93029



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.

WUB
CSA-F280-12
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	3.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	2.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	1.
							No.	Description
								Date

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Client
GREENPARK HOMES

Project Name
**RUSSELL GARDENS PH 4
HAMILTON, ONTARIO**

**VALLEYCREEK 12A
WUB**

2733 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	
SECOND FLOOR HEATING LAYOUT	
Date	OCT/2021
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	93029