

SITE NAME: RESSEL GARDENS PHASE 3

BUILDER: GREENPARK HOMES

TYPE: VALLEYCREEK 6

GFA: 2822

DATE: Mar-20

LOR: 85779

WINTER NATURAL AIR CHANGE RATE 0.338

SUMMER NATURAL AIR CHANGE RATE 0.121

HEAT LOSS AT °F. 71

HEAT GAIN AT °F. 13

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	S-ENS	WIC-4	ENS-4
FACTORS											
GRS.WALL AREA	LOSS	GAIN	315	252	163	108	201	324	54	63	54
GLAZING	LOSS	GAIN									
NORTH	19.8	16.0	0	0	0	15	297	240	0	0	0
EAST	19.8	41.6	0	0	0	0	0	0	45	890	1870
SOUTH	19.8	24.9	0	0	0	19	376	473	0	0	0
WEST	19.8	41.6	35	692	1454	15	297	523	0	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	0
DOORS	23.6	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.6	280	1161	210	222	920	167	134	556	101
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	309	368	182	197	235	116	229	273	136
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	274	649	118
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			2221	1748	1204	936	2761	2299	687	603	461
SUB TOTAL HT GAIN			1846	1146	708	435	2311	2204	257	617	243
LEVEL FACTOR / MULTIPLIER	0.20	0.26		0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26
AIR CHANGE HEAT LOSS			576	453	312	243	716	596	178	156	104
AIR CHANGE HEAT GAIN			143	89	56	34	179	171	20	48	19
DUCT LOSS			0	0	0	0	346	0	87	76	0
DUCT GAIN			0	0	0	0	336	0	28	67	0
HEAT GAIN PEOPLE	240	2	480	0	0	0	240	1	240	0	0
HEAT GAIN APPLIANCES/LIGHTS			630	0	0	0	630	0	0	0	0
TOTAL HT LOSS BTU/H			2797	2201	1516	1179	3824	2895	952	835	595
TOTAL HT GAIN x 1.3 BTU/H			4029	1604	992	1738	4804	4218	397	951	341

ROOM USE	EXP. WALL	CLG. HT.	FAM	DIN	KT/BF	LIB	LAUN	WR	FOY	WOD	BAS
FACTORS											
GRS.WALL AREA	LOSS	GAIN	340	120	360	190	288	33	330	306	1182
GLAZING	LOSS	GAIN									
NORTH	19.8	16.0	0	0	0	0	0	0	0	0	0
EAST	19.8	41.6	0	0	0	0	0	0	0	0	0
SOUTH	19.8	24.9	0	0	0	12	237	290	0	0	0
WEST	19.8	41.6	30	593	1247	0	0	0	0	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0	0
DOORS	23.6	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.6	310	1285	233	103	427	77	296	1223	222
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			1878	763	2608	975	1681	246	2234	879	8080
SUB TOTAL HT GAIN			1480	501	2923	433	392	194	633	615	589
LEVEL FACTOR / MULTIPLIER	0.30	0.49		0.30	0.49	0.30	0.49	0.30	0.49	0.30	0.49
AIR CHANGE HEAT LOSS			913	371	1219	474	617	120	1086	0.50	0.93
AIR CHANGE HEAT GAIN			115	39	226	33	30	15	49	8334	93
DUCT LOSS			0	0	0	0	0	0	0	0	0
DUCT GAIN			0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			630	630	630	630	630	0	0	0	630
TOTAL HT LOSS BTU/H			2791	1134	3727	1449	2499	386	3320	879	16414
TOTAL HT GAIN x 1.3 BTU/H			2891	1520	4912	1425	1367	271	866	799	1705

TOTAL HEAT GAIN BTU/H:

35127

TONS: 2.93

LOSS DUE TO VENTILATION LOAD BTU/H: 1516

STRUCTURAL HEAT LOSS: 49284

TOTAL COMBINED HEAT LOSS BTU/H: 50799

SITE NAME: RESSEL GARDENS PHASE 3
 BUILDER: GREENPARK HOMES

TYPE: VALLEYCREEK 5 ✓

DATE: Mar-20

GFA: 2822 LO# 85779

 HEATING CFM 1131
 TOTAL HEAT LOSS 49,284 ✓
 AIR FLOW RATE CFM 22.95
 COOLING CFM 1131
 TOTAL HEAT GAIN 34,852
 AIR FLOW RATE CFM 32.45

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

 #GOODMAN
 GMEC960603BNA 80
 FAN SPEED LOW
 MEDLOW 928
 MEDIUM 1017
 HIGH 1131

 AFUE = 96 % ✓
 INPUT (BTU/H) = 60,000 ✓
 OUTPUT (BTU/H) = 57,800 ✓

 DESIGN CFM = 1131
 CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	8	4
R/A	0	0	4	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	S-ENS	WIC-4	BED-3	MBR	ENS-4	FAM	DIN	KT/BF	KT/BF	LIB	LAUN	W/R	FOY	BED-4	BAS	BAS	BAS	BAS
RM LOSS MBH	1.40	1.10	1.52	1.18	1.91	1.45	0.48	0.84	1.91	1.40	0.51	2.79	1.13	1.86	1.86	1.45	2.50	0.37	3.32	1.45	4.32	4.32	4.32	4.32
CFM PER RUN HEAT	32	25	35	27	44	33	11	19	44	32	12	64	26	43	43	33	57	8	76	33	99	99	99	99
RM GAIN MBH	2.01	0.80	0.99	1.74	2.40	2.11	0.20	0.95	2.40	2.01	0.34	2.89	1.52	2.46	2.46	1.42	1.37	0.27	0.89	2.11	0.63	0.63	0.63	0.63
CFM PER RUN COOLING	65	26	32	56	78	68	6	31	78	65	11	94	49	80	80	46	44	9	29	68	20	20	20	20
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	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	50	36	31	27	44	58	36	39	49	36	44	27	19	26	32	37	20	37	44	47	28	19	13	34
EQUIVALENT LENGTH	190	150	170	130	130	160	150	120	140	120	200	130	130	120	140	150	130	150	120	130	90	100	160	140
TOTAL EFFECTIVE LENGTH	240	186	201	157	174	218	186	159	189	156	244	157	149	146	172	187	150	187	184	177	118	119	173	174
ADJUSTED PRESSURE	0.07	0.09	0.09	0.11	0.1	0.08	0.09	0.11	0.09	0.11	0.07	0.1	0.12	0.12	0.1	0.09	0.11	0.09	0.1	0.1	0.14	0.14	0.09	0.09
ROUND DUCT SIZE	6	4	4	6	5	6	4	4	5	6	4	6	5	5	5	5	5	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	163	287	402	138	323	188	126	218	323	163	138	326	191	316	316	242	419	92	558	168	505	505	505	505
COOLING VELOCITY (ft/min)	331	298	367	286	573	347	69	356	573	331	126	479	360	587	587	338	323	103	213	347	102	102	102	102
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	D	B	D	C	D	D	D	A	C	A	B	A	A	C	B	C	C	C	B	B	D	C

RUN #	25	26
ROOM NAME	ENS	S-ENS
RM LOSS MBH	1.10	0.48
CFM PER RUN HEAT	25	11
RM GAIN MBH	0.80	0.20
CFM PER RUN COOLING	26	6
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH	58	32
EQUIVALENT LENGTH	190	180
TOTAL EFFECTIVE LENGTH	248	212
ADJUSTED PRESSURE	0.07	0.08
ROUND DUCT SIZE	4	4
HEATING VELOCITY (ft/min)	287	126
COOLING VELOCITY (ft/min)	298	69
OUTLET GRILL SIZE	3X10	3X10
TRUNK	A	D

SUPPLY AIR TRUNK SIZE

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.07	8.8	12	396
TRUNK B	0.07	11.8	16	644
TRUNK C	0.07	9.2	10	529
TRUNK D	0.07	11.6	16	627
TRUNK E	0.00	0	0	0
TRUNK F	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0.00	0	0	0
TRUNK H	0.00	0	0	0
TRUNK I	0.00	0	0	0
TRUNK J	0.00	0	0	0
TRUNK K	0.00	0	0	0
TRUNK L	0.00	0	0	0

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	175	180	85	75	180	240	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
ACTUAL DUCT LGH	38	36	53	57	25	40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	150	135	185	225	145	230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	188	171	238	282	170	270	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.08	0.09	0.06	0.05	0.09	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	14.80
ROUND DUCT SIZE	7.3	7.2	8	6	7.2	9.2	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	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
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK X	1131	0.05	16.5	32
TRUNK Y	355	0.05	10.7	14
TRUNK Z	400	0.05	11.2	14
DROP	1131	0.05	16.5	24

TYPE: VALLEYCREEK 5
 SITE NAME: RESSEL GARDENS PHASE 3

LO # 85779

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	3 ✓ @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 ✓ @ 10.6 cfm	53 cfm
Other Rooms	5 ✓ @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	180.2 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	79.6 ✓ cfm	

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	469.6 - 180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	390.1	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	71 F	1.08	0.25

SUPPLEMENTAL FANS		PANASONIC
Location	Model	cfm
ENS	FV-05-11VK1	50
S-ENS	FV-05-11VK1	50
W/R	FV-05-11VK1	50

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
155 cfm high	84 cfm low	
75 % 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:	March-20

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

LO#: 85779

Model: VALLEYCREEK 5

Builder: GREENPARK HOMES

Date: 3/25/2020

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1276	9	11484
First	1276	10	12760
Second	1646	9	14814
Third	0	9	0
Fourth	0	9	0
Total:			39,058.0 ft³
Total:			1106.0 m³

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
6.2.6 Sensible Gain due to Air Leakage

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

0.338 x 307.22 x 39 °C x 1.2 = 4885 W

= 16668 Btu/h

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

= 0.121 x 307.22 x 7 °C x 1.2 = 317 W

= 1082 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 CFM x 71 °F x 1.08 x 0.25 = 1515 Btu/h

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

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)

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

Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	16,668	8,959	0.930
2	0.3		10,286	0.486
3	0.2		12,861	0.259
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 5**BUILDER:** GREENPARK HOMES**SFQT:** 2922**LO#** 85779**SITE:** RESSEL 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):	39058.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 57.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	180.0 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	-

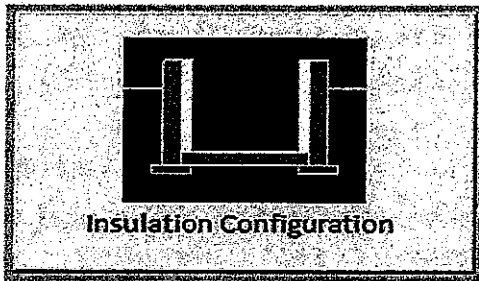
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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):	17.4	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.1	
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):	1737	

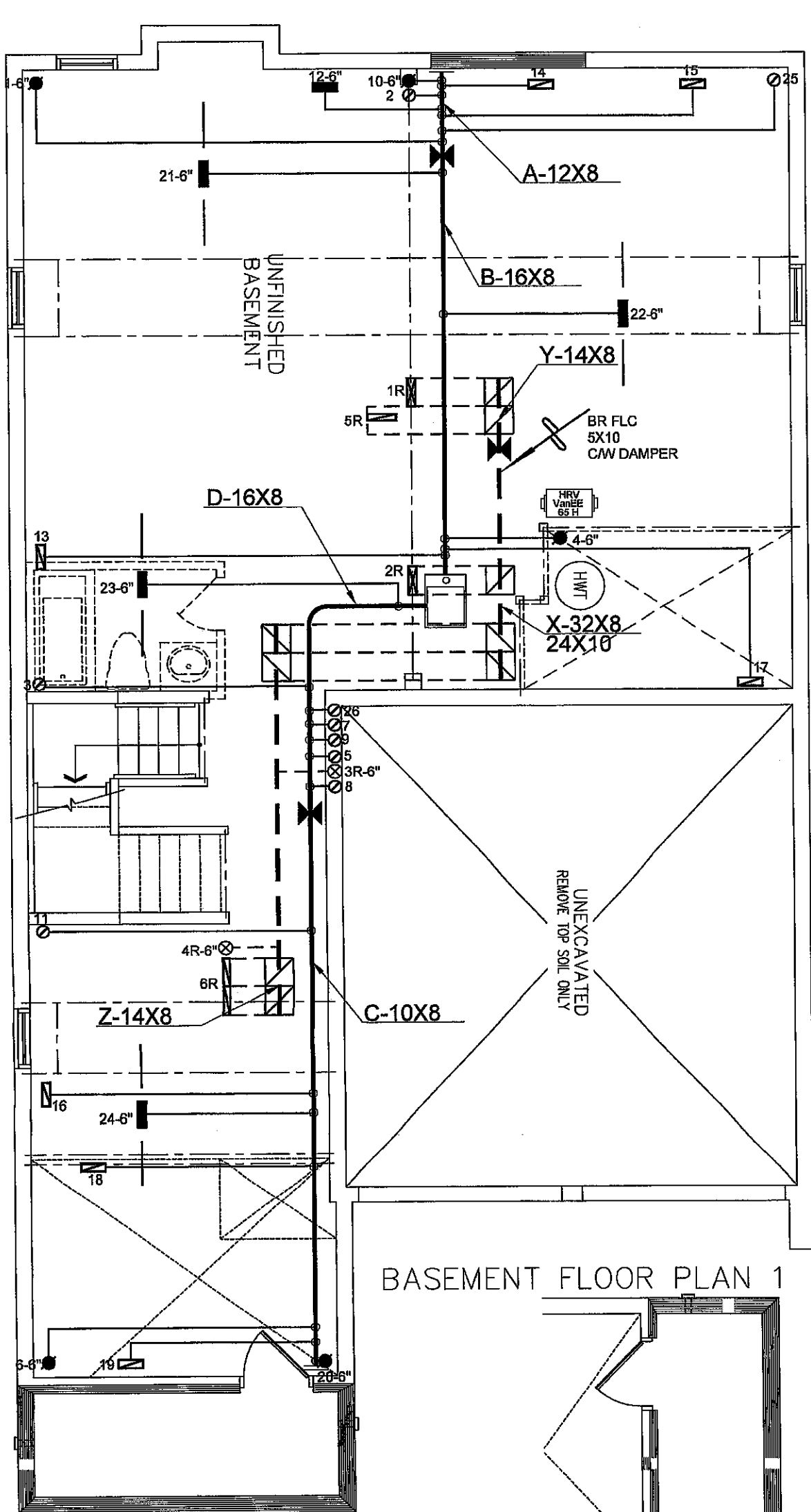
TYPE: VALLEYCREEK 5
LO# 85779

Air Infiltration Residential Load Calculator

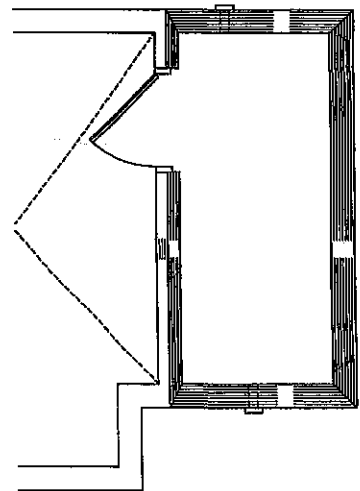
Supplemental tool for CAN/CSA-F280 ✓

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):	1106.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1474.3 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):	0.338			
Cooling Air Leakage Rate (ACH/H):	0.121			

TYPE: VALLEYCREEK 5
LO# 85779



PARTIAL BASEMENT PLAN FOR
DECK CONDITION 1, 2 & 3



BASEMENT FLOOR PLAN 1

BASEMENT FLOOR PLAN 2

CITY OF HAMILTON
Building Division

Permit No. **20-187751**

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
[Signature] **DEC 14/20**
DATE

BASEMENT FLOOR PLAN 3

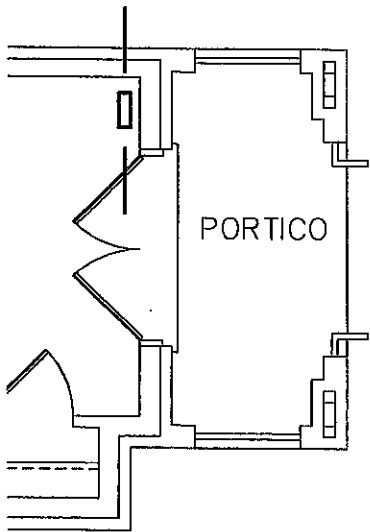
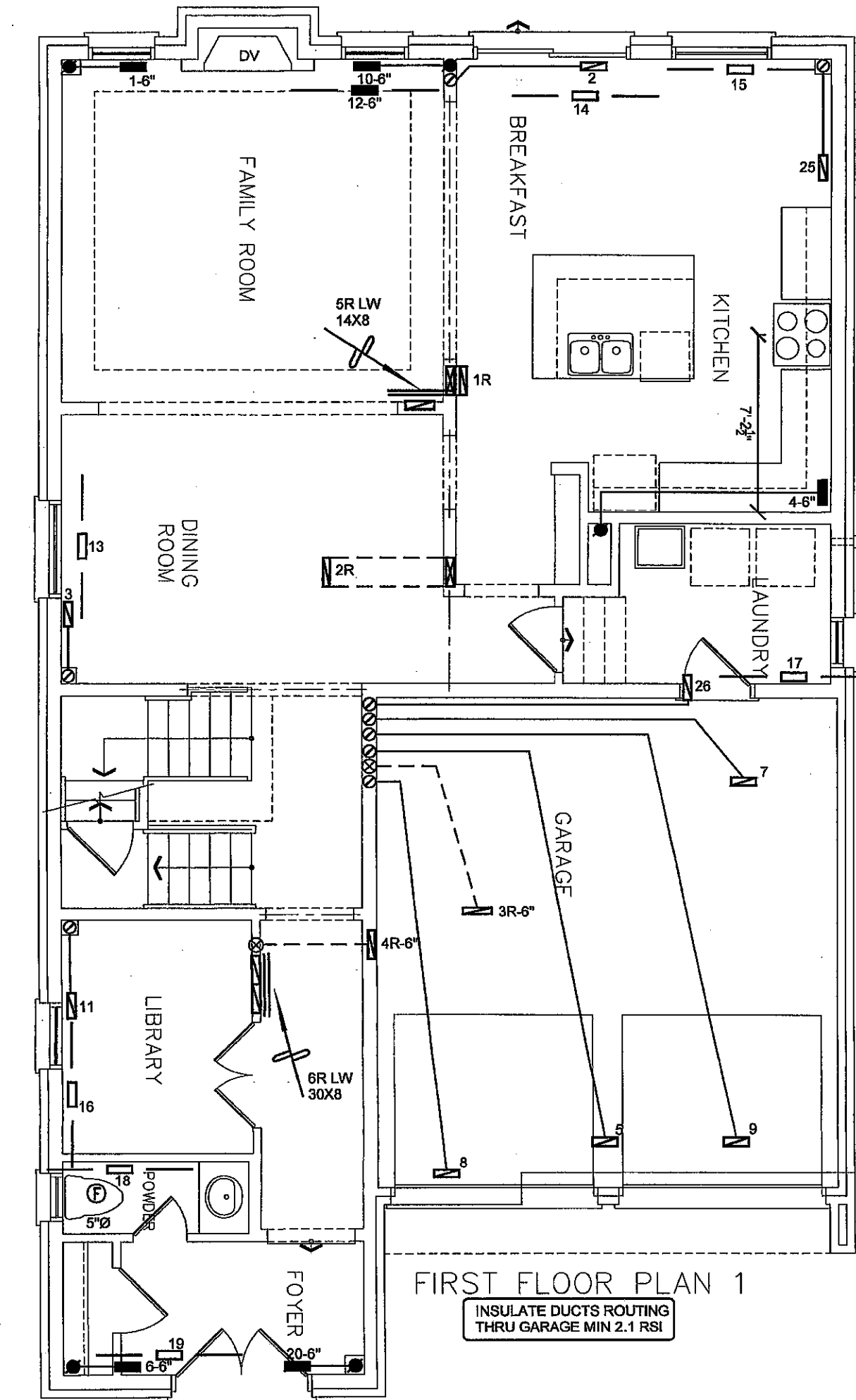
CSA-F280-12
PACKAGE A1

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

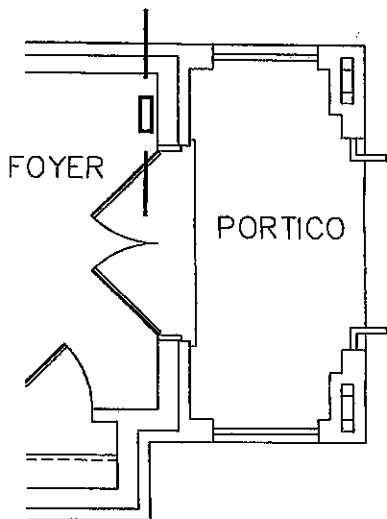
HVAC LEGEND							REVISIONS		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	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

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Client GREENPARK HOMES		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	HEAT LOSS 50799 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT	
Project Name RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO			MAKE GOODMAN		3RD FLOOR			Date MAR/2020	
VALLEYCREEK 5 2922 sqft		MODEL GMEC960603BNA		2ND FLOOR			14	4	4
		INPUT 60 MBTU/H		1ST FLOOR			8	2	2
		OUTPUT 57.6 MBTU/H		BASEMENT			4	1	0
		COOLING 3.0 TONS		Scale 3/16" = 1'-0"					
		FAN SPEED 1131 cfm @ 0.5" w.c.		BCIN# 19669					
				LO# 85779					



FIRST FLOOR PLAN 2



FIRST FLOOR PLAN 3

CITY OF HAMILTON
Building Division

Permit No. **20-187751**

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DEC. 14/20
DATE

FOR CHIEF BUILDING OFFICIAL

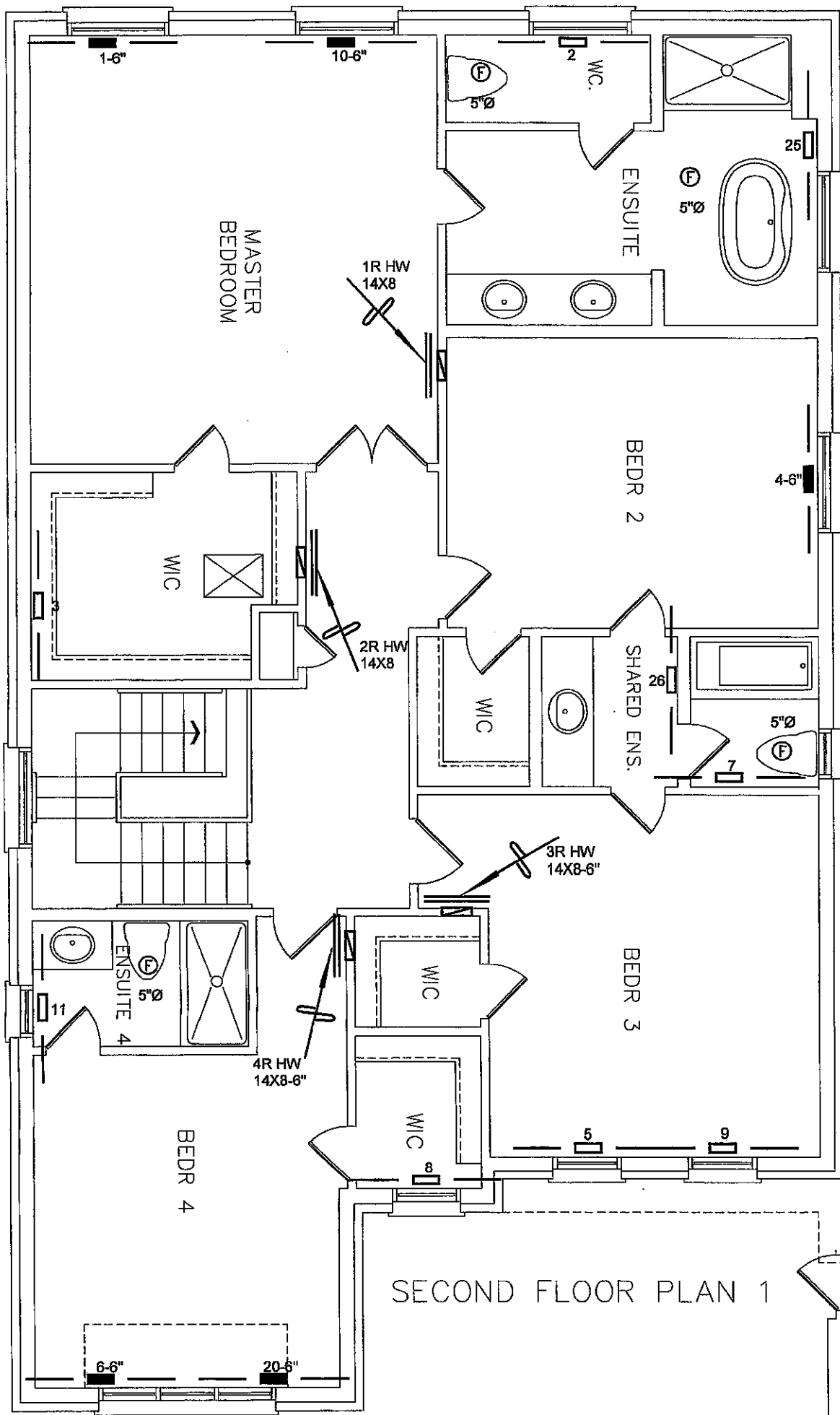
CSA-F280-12
PACKAGE A1

I MICHAEL O'Rourke HAVE REVIEWED
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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.

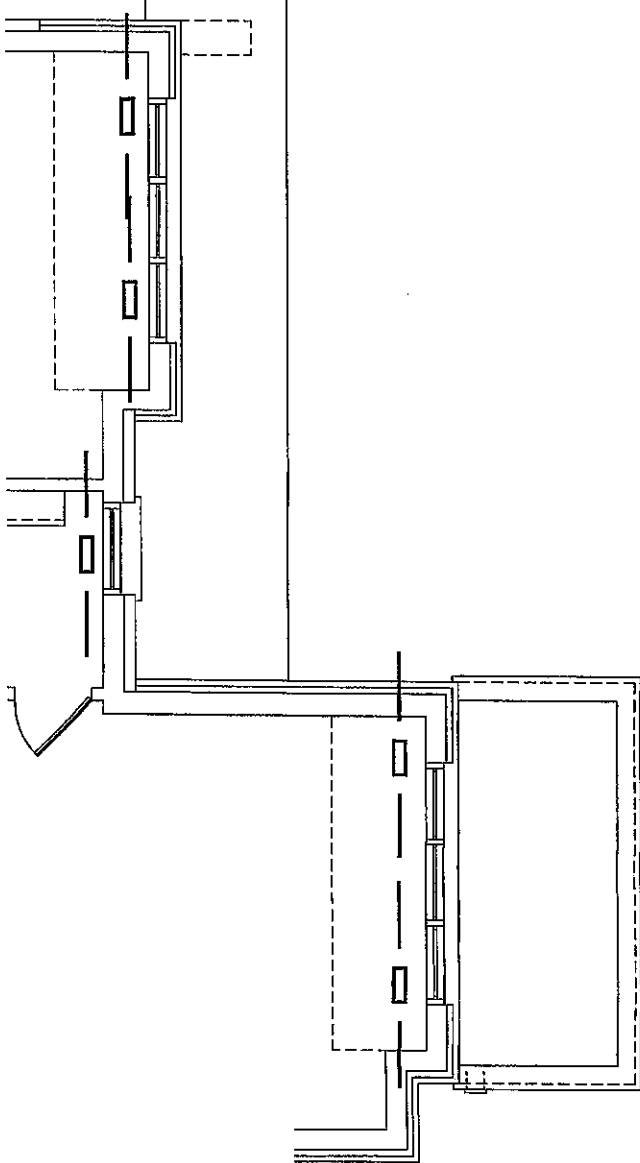
HVAC LEGEND							3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK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

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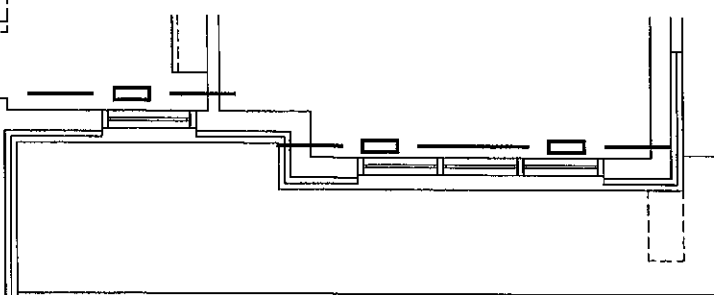
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets 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	
GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2020
RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
VALLEYCREEK 5 2922 sqft		BCIN# 19669		
		LO#	85779	



SECOND FLOOR PLAN 2



SECOND FLOOR PLAN 3



CITY OF HAMILTON
Building Division
Permit No. **20-187751**
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
DATE **DEC. 14/20**

I MICHAEL O'ROURKE HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 1.2.5 OF THE
BUILDING CODE.

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

CSA-F280-12
PACKAGE A1

HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	SUPPLY AIR GRILLE		8" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	1.	
	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		FRA- FLOOR RETURN AIR GRILLE	3.	
					REDUCER		

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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	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name RUSSEL GARDENS PHASE 3 HAMILTON, ONTARIO			Date MAR/2020	Scale 3/16" = 1'-0"
VALLEYCREEK 5 2922 sqft		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.	BCIN# 19669	
			LO#	85779