

ROOM USE	FAM		LV/DN		KT/BF		GUEST		LND		G-SUITE		FOY		MUD		WOB		BAS	
EXP. WALL	16		43		41		23		9		6		19		28		49		174	
CLG. HT.	10		10		10		10		9		10		11		11		8		9	
GRS.WALL AREA	160		430		410		230		81		60		209		306		441		1044	
GLAZING	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	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	19.8	41.6	0	0	0	0	0	0	0	0	0	0	0	4	79	166	0	0	0	0
SOUTH	19.8	24.9	0	0	36	712	896	8	156	199	0	0	0	7	138	174	0	0	0	0
WEST	19.8	41.6	40	791	1662	0	0	0	50	958	2078	30	693	1247	0	0	0	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
DOORS	23.5	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	120	497	90	394	1633	296	362	1459	266	200	829	160	74	307	66	83	220	40
NET EXPOSED BENT 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
EXPOSED CLG	1.2	0.6	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	10	26	13	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
BASEMENT/CRAWL HEAT LOSS																				
SLAB ON GRADE HEAT LOSS																				
SUBTOTAL HT LOSS			1314		2346		2606		1422		649		358		1701		1788		249	
SUB TOTAL HT GAIN				1765		1193		2541		1397		268		214		460		3588		5518
LEVEL FACTOR / MULTIPLIER	0.30	0.63			0.30	0.63		0.30	0.63		0.30	0.63		0.30	0.63		0.30	0.63		0.60
AIR CHANGE HEAT LOSS			692		1236		1373		749		205		189		897		942		10923	
AIR CHANGE HEAT GAIN				133		90		191		105		20		18		36				291
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	1	240	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			647		647		647		647		647		647		647		647		647	
TOTAL HT LOSS BTU/H			2098		3581		3979		2172		864		547		2588		2730		3588	
TOTAL HT GAIN x 1.3 BTU/H			3398		2608		4393		3105		1216		289		643		691		4341	

TOTAL COMBINED HEAT LOSS BTU/H: 69187

SITE NAME: RUSSEL GARDENS PH 4
BUILDER: GREENPARK HOMES

LOT 562
TYPE: SPRINGFIELD 2

DATE: Jul-21

GFA: 3510 LO# 91978

HEATING CFM 1504 COOLING CFM 1504
TOTAL HEAT LOSS 57,732 TOTAL HEAT GAIN 41,960
AIR FLOW RATE CFM 26.05 AIR FLOW RATE CFM 35.84

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

#GOODMAN

GMEC880804CNA 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 = 1604
CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	11	6
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.

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	HALL	FLEX	MBR	ENS-3	FAM	LV/DN	KT/BF	KT/BF	GUEST	LND	G-SUITE	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.43	1.10	0.47	1.44	1.73	1.22	0.68	1.32	1.49	1.43	0.59	1.00	3.58	1.99	1.99	1.09	0.85	0.55	2.60	2.73	3.34	3.34	3.34	3.34
CFM PER RUN HEAT	37	29	12	37	45	32	18	34	39	37	15	26	93	52	52	28	22	14	68	71	87	87	87	87
RM GAIN MBH	2.06	0.87	0.13	1.58	2.29	1.96	0.48	0.85	1.73	2.06	0.37	1.65	2.51	2.20	2.20	1.55	1.22	0.30	0.64	0.69	0.90	0.90	0.90	0.90
CFM PER RUN COOLING	74	31	5	57	82	70	17	23	62	74	13	59	90	79	79	56	44	11	23	25	32	32	32	32
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	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	67	48	33	58	40	26	35	63	24	58	23	50	10	38	34	54	63	47	35	50	66	40	44	15
EQUIVALENT LENGTH	160	180	200	150	140	200	170	160	200	180	170	110	130	180	160	180	170	130	100	150	170	120	110	100
TOTAL EFFECTIVE LENGTH	227	226	233	208	180	226	205	223	224	236	193	160	140	218	194	214	233	177	135	200	236	160	154	115
ADJUSTED PRESSURE	0.08	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.09	0.11	0.12	0.08	0.09	0.08	0.07	0.1	0.13	0.09	0.07	0.1	0.11	0.14
ROUND DUCT SIZE	6	4	4	5	6	6	4	4	6	6	4	5	8	8	5	5	5	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	189	333	138	272	229	163	207	390	199	189	172	191	474	265	265	206	162	161	499	521	444	444	444	444
COOLING VELOCITY (ft/min)	377	356	57	419	418	357	195	264	316	377	149	433	459	403	403	411	323	126	169	184	163	163	163	163
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	C	C	D	C	D	A	C	B	C	B	D	B	B	A	A	A	D	A	A	B	C	C

RUN #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BED-2	BED-3	ENS	ENS-2	FAM	F-WIC	GUEST	BAS
RM LOSS MBH	3.34	1.44	1.73	1.10	0.68	1.00	1.38	1.09	3.34
CFM PER RUN HEAT	87	37	45	29	18	26	36	28	87
RM GAIN MBH	0.90	1.58	2.29	0.87	0.48	1.65	0.97	1.55	0.90
CFM PER RUN COOLING	32	57	82	31	17	59	35	56	32
ADJUSTED PRESSURE	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16
ACTUAL DUCT LGH	24	42	26	40	43	40	24	60	38
EQUIVALENT LENGTH	120	190	180	190	180	130	100	60	110
TOTAL EFFECTIVE LENGTH	144	232	186	230	223	170	124	120	148
ADJUSTED PRESSURE	0.11	0.07	0.09	0.07	0.08	0.1	0.14	0.14	0.11
ROUND DUCT SIZE	8	5	6	4	4	5	4	5	8
HEATING VELOCITY (ft/min)	444	272	229	333	207	191	413	206	444
COOLING VELOCITY (ft/min)	163	419	418	356	195	433	402	411	163
OUTLET GRILL SIZE	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10
TRUNK	D	D	D	C	D	B	D	A	B

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	321	0.07	9.5	10	x 8 578
TRUNK B	717	0.07	12.8	20	x 8 645
TRUNK C	1055	0.07	14.8	26	x 8 730
TRUNK D	447	0.07	10.7	14	x 8 575
TRUNK E	0	0.00	0	0	x 8 0
TRUNK F	0	0.00	0	0	x 8 0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	x 8 0
TRUNK H	0	0.00	0	0	x 8 0
TRUNK I	0	0.00	0	0	x 8 0
TRUNK J	0	0.00	0	0	x 8 0
TRUNK K	0	0.00	0	0	x 8 0
TRUNK L	0	0.00	0	0	x 8 0
TRUNK O	0	0.05	0	0	x 8 0
TRUNK P	0	0.05	0	0	x 8 0
TRUNK Q	0	0.05	0	0	x 8 0
TRUNK R	0	0.05	0	0	x 8 0
TRUNK S	0	0.05	0	0	x 8 0
TRUNK T	0	0.05	0	0	x 8 0
TRUNK U	0	0.05	0	0	x 8 0
TRUNK V	0	0.05	0	0	x 8 0
TRUNK W	0	0.05	0	0	x 8 0
TRUNK X	1114	0.05	16.4	32	x 8 827
TRUNK Y	385	0.05	11	14	x 8 495
TRUNK Z	0	0.05	0	0	x 8 0
DROP	1504	0.05	18.4	24	x 14 845

RETURN AIR #	1	2	3	4	5	6	7	8	9	BR
AIR VOLUME	115	75	130	145	85	115	330	135	135	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	66	44	49	49	55	51	18	51	57	1
EQUIVALENT LENGTH	215	245	205	175	175	225	185	235	240	0
TOTAL EFFECTIVE LH	281	289	254	224	230	276	203	286	297	1
ADJUSTED PRESSURE	0.05	0.05	0.06	0.07	0.06	0.05	0.07	0.05	0.05	14.80
ROUND DUCT SIZE	7	6	7	7	6	7	9.6	7.5	7.5	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	30	14	14	0

TYPE: SPRINGFIELD 2
SITE NAME: RUSSEL GARDENS PH 4

LO # 91976
LOT 562

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	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A. TOTAL		201.4 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	201.4	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	106.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE G2400H ECM Location: BSMT		
95.4 cfm	☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T^{\circ}F$	FACTOR	% LOSS
95.4 CFM	X 71 F	X 1.08	X 0.20

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
G-SUITE	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE G2400H ECM	
210 cfm high	50 cfm low	
80 % 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:	July-21

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

LO#: 91976

Model: SPRINGFIELD 2

Builder: GREENPARK HOMES

Date: 2021-07-28

Volume Calculation
House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1583	9	14247
First	1583	10	15830
Second	1927	9	17343
Third	0	9	0
Fourth	0	9	0
Total:			47,420.0 ft ³
Total:			1342.8 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.365
SUMMER NATURAL AIR CHANGE RATE	0.130

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

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

$$0.365 \times 373.00 \times 39^\circ\text{C} \times 1.2 = 6403 \text{ W}$$

$$= 21845 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

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

$$0.130 \times 373.00 \times 7^\circ\text{C} \times 1.2 = 415 \text{ W}$$

$$= 1417 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

$$95 \text{ CFM} \times 71^\circ\text{F} \times 1.08 \times 0.20 = 1455 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

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

$$95 \text{ CFM} \times 13^\circ\text{F} \times 1.08 \times 0.20 = 264 \text{ Btu/h}$$

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)	HLairbv 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	21,845	9,107	1.199
2	0.3		12,437	0.527
3	0.2		13,838	0.316
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: SPRINGFIELD 2	LOT 562	BUILDER: GREENPARK HOMES
SFQT: 3510	LO# 91976	SITE: RUSSEL 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):	47420.0	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: 57.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	174.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	18.0 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	96%	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

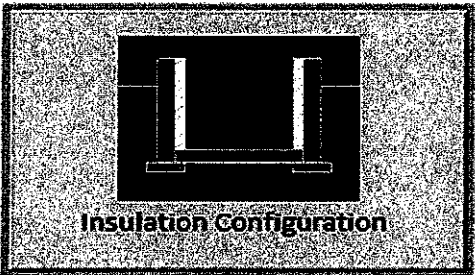
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

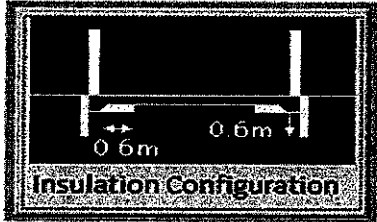
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	11.9	
Exposed Perimeter (m):	53.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.56	
Window Area (m ²):	0.5	
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):		939

TYPE: SPRINGFIELD 2
LO# 91976

LOT 562

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	 Insulation Configuration
Width (m):	11.9	
Exposed Perimeter (m):	5.5	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		73

TYPE: SPRINGFIELD 2
LO# 91976

LOT 562

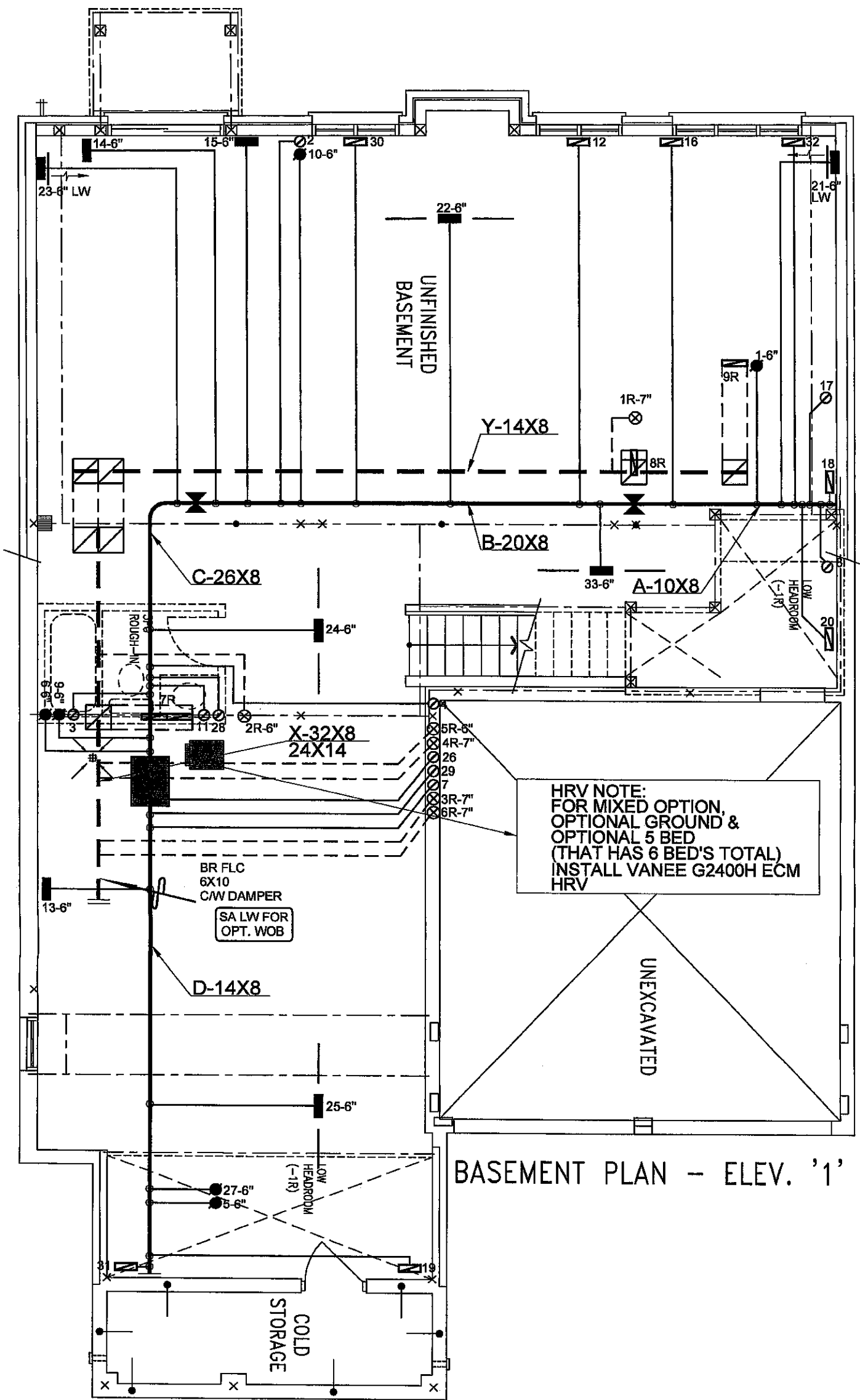
Air Infiltration Residential Load Calculator

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):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1342.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1790.0 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):	0.365			
Cooling Air Leakage Rate (ACH/H):	0.130			

TYPE: SPRINGFIELD 2
LO# 91976

LOT 562



BASEMENT PLAN - ELEV. '1'

WUB
CSA-F280-12
LOT 562 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, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Description
	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		FRA- FLOOR RETURN AIR GRILLE	1.	
					REDUCER	No.	Date

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Client

GREENPARK HOMES

Project Name

**RUSSELL GARDENS PH 4
HAMILTON, ONTARIO**

LOT 562
SPRINGFIELD 2 3510 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@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 59187 BTU/H
UNIT DATA

MAKE	GOODMAN	# OF RUNS	S/A	R/A	FANS
MODEL	GMEC960804CNA	3RD FLOOR			
INPUT	80 MBTU/H	2ND FLOOR	16	6	4
OUTPUT	76.8 MBTU/H	1ST FLOOR	11	3	2
COOLING	3.5 TONS	BASEMENT	6	1	0
FAN SPEED	1504 cfm @ 0.6" w.c.				

ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title

**BASEMENT
HEATING
LAYOUT**

Date

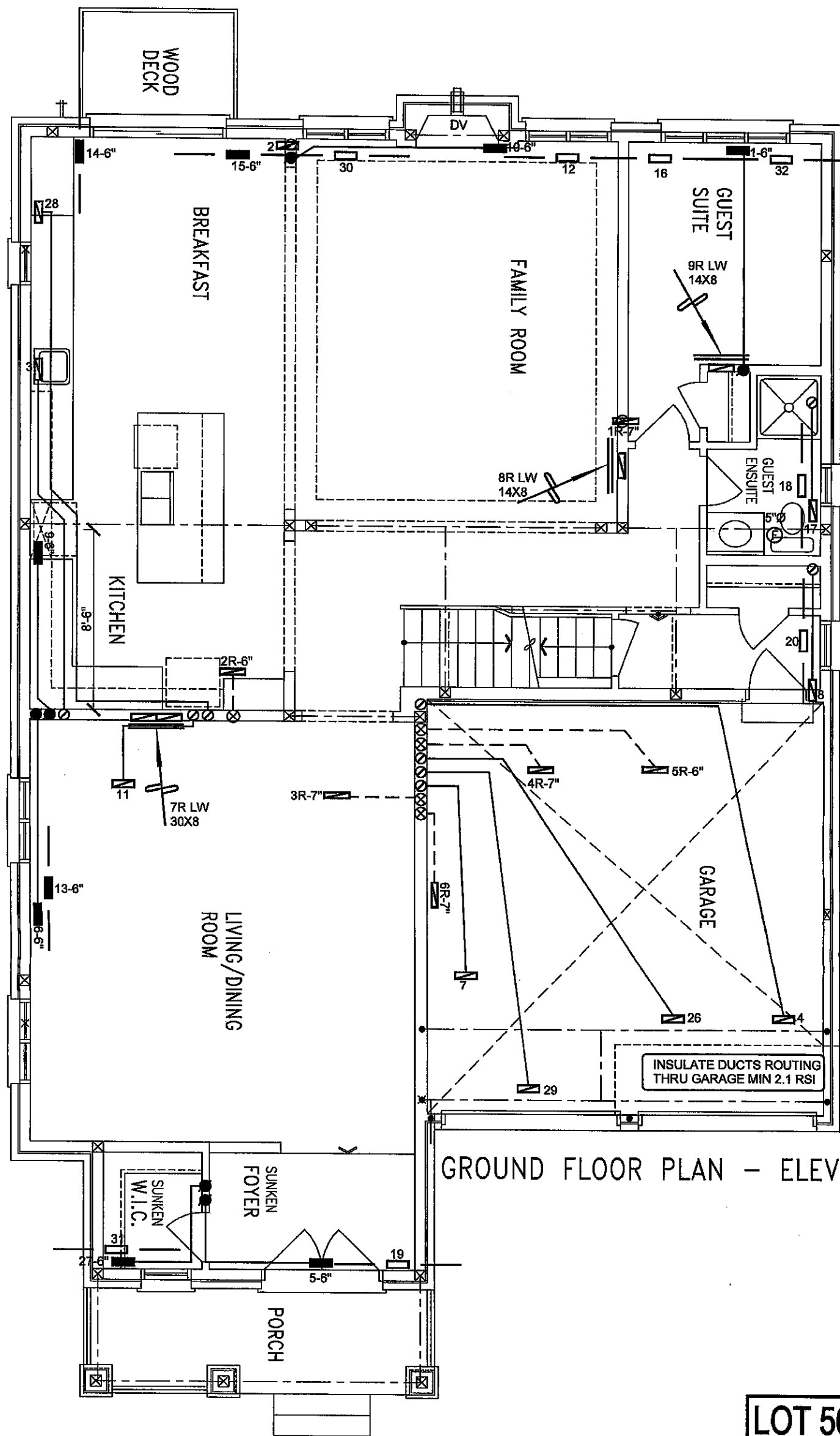
JULY/2021

Scale

3/16" = 1'-0"

BCIN# 19669

LO# 91976



GROUND FLOOR PLAN - ELEV. '1'

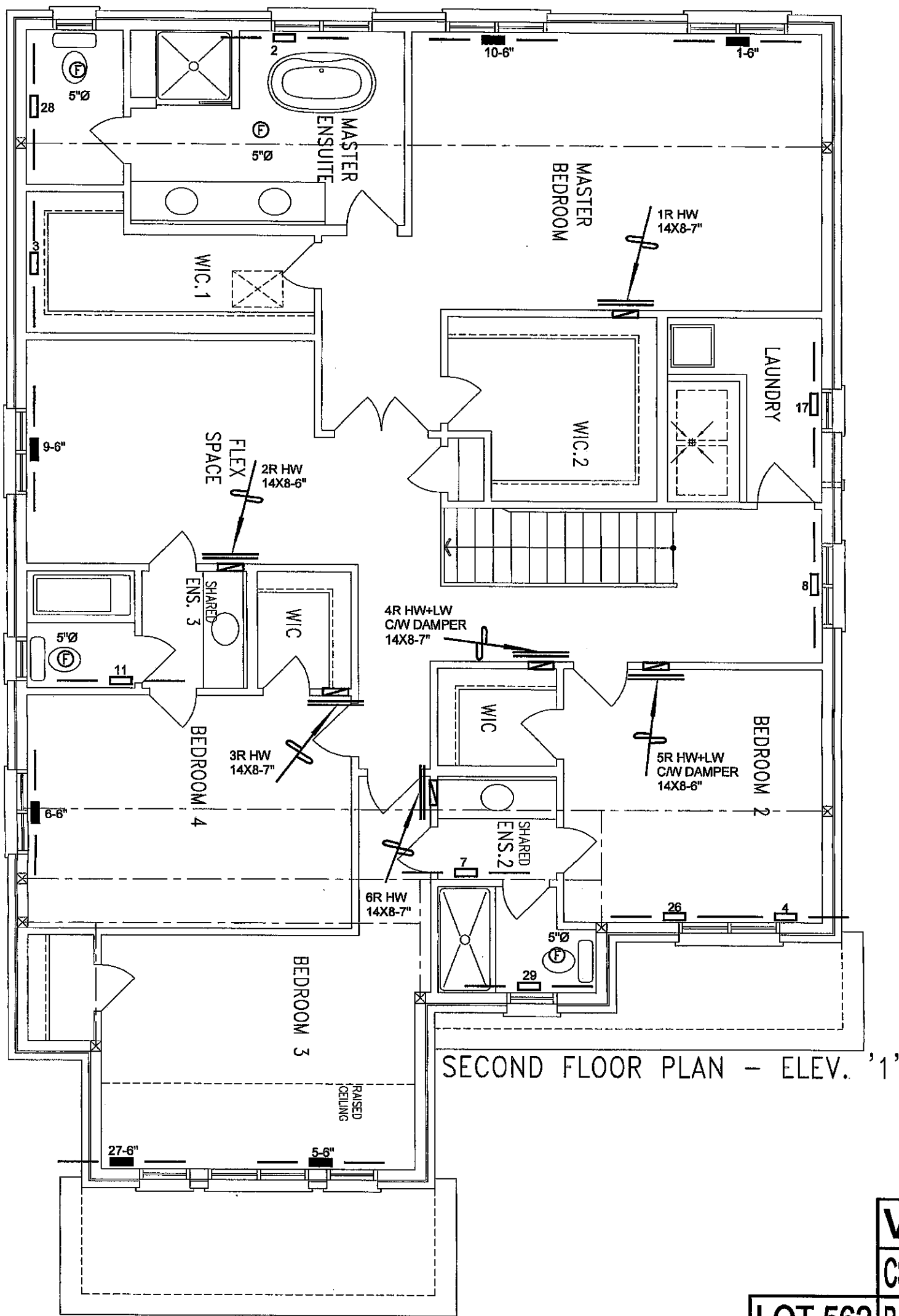
I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 32.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WUB
CSA-F280-12
LOT 562 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 8" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		8" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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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	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO			Date JULY/2021	Scale 3/16" = 1'-0"
LOT 562 SPRINGFIELD 2 3510 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#	91976



I MICHAEL O'DRISKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

WUB
CSA-F280-12
LOT 562 **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		 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 RUSSELL GARDENS PH 4 HAMILTON, ONTARIO			Date JULY/2021	Scale 3/16" = 1'-0"
LOT 562 SPRINGFIELD 2 3510 sqft		BCIN# 19669		
		LO#	91976	