

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

DATE: JUL-17
LO# 75025

TYPE: HIGHGROVE 4
GFA: 2010

WINTER NATURAL AIR CHANGE RATE 0.409
SUMMER NATURAL AIR CHANGE RATE 0.146

HEAT LOSS AT °F. 71
HEAT GAIN AT °F. 14

CSA-F280-12
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BATH	FOY	MUD	WOD	BAS
FACTORS	16	9	9	10	31	0	14	12	26	94
GRS.WALL AREA	9	9	9	9	10	9	11	12	9	9
GLAZING	144	81	0	90	295	0	154	144	234	720
NORTH	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
EAST	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0	0	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	4.1	0	0	0	0	0	0	0	0	0
EXPOSED CLG	3.3	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	1.2	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.4	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1447	811	183	1313	2175	200	200	102	148	309
SUB TOTAL HT GAIN	1541	689	67	1300	2098	102	102	102	102	102
LEVEL FACTOR / MULTIPLIER	0.20	0.44	0.20	0.44	0.20	0.44	0.20	0.44	0.20	0.44
AIR CHANGE HEAT LOSS	642	360	81	583	965	89	89	13	13	13
AIR CHANGE HEAT GAIN	192	86	8	162	261	0	0	0	0	0
DUCT LOSS	0	117	26	190	314	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	1	240	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	516	0	0	616	616	0	0	0	0	0
TOTAL HT LOSS BTU/H	2089	1288	291	2086	3454	289	289	148	148	148
TOTAL HT GAIN x 1.3 BTU/H	3678	1108	108	3315	4598	4598	4598	4598	4598	4598

ROOM USE EXP. WALL CLG. HT.	LVIDN	KT/IFM	LAUN	FOY	MUD	WOD	BAS
FACTORS	27	46	0	14	12	26	94
GRS.WALL AREA	10	10	9	11	12	9	9
GLAZING	270	460	0	154	144	234	720
NORTH	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
EAST	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0
NET EXPOSED WALL	240	380	380	35	20	0	20
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	119	124	0	469
EXPOSED CLG	0	0	0	0	514	0	92
NO ATTIC EXPOSED CLG	0	0	0	0	100	0	0
EXPOSED FLOOR	0	0	84	0	0	141	126
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	421
SLAB ON GRADE HEAT LOSS	0	0	35	0	0	0	82
SUBTOTAL HT LOSS	1588	3323	183	1314	983	768	2926
SUB TOTAL HT GAIN	1449	3739	67	257	192	336	3516
LEVEL FACTOR / MULTIPLIER	0.30	0.58	0.20	0.30	0.30	0.50	0.50
AIR CHANGE HEAT LOSS	926	1937	81	766	573	7004	153
AIR CHANGE HEAT GAIN	180	465	8	32	24	64	0
DUCT LOSS	0	0	26	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	616	616	616	0	0	0	0
TOTAL HT LOSS BTU/H	2514	5260	291	2080	1556	768	10820
TOTAL HT GAIN x 1.3 BTU/H	2920	6267	989	376	281	437	309

**SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES**

TYPE: HIGHGROVE 4 DATE: Jul-17 LO# 75025

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 32,787
AIR FLOW RATE CFM 27.14

#GOODMAN
GMEC960402BNA 40
FAN SPEED
LOW
MEDIUM
HIGH

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400

RUN COUNT	4th	3rd	2nd	1st	Bas
SIA	0	0	10	6	4
R/A	0	0	3	2	1

All SIA diffusers 4"x10" unless noted otherwise on layout.
All SIA runs 5'10" unless noted otherwise on layout.

ROOM NAME	1	2	3	4	5	6	7	8	10	13	14	15	16	17	19	20	21	22	23	24
RM LOSS MBH	1.04	1.29	0.29	1.04	1.73	1.04	0.29	1.73	1.04	2.51	1.75	1.75	1.75	0.29	2.08	1.56	2.90	2.90	2.90	2.90
CFM PER RUN HEAT	28	35	8	28	47	28	8	47	28	68	48	48	48	8	56	42	79	79	79	79
RM GAIN MBH	1.84	1.11	1.66	1.66	2.30	1.66	0.15	2.30	1.84	2.92	2.09	2.09	2.09	0.99	0.38	0.28	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	67	40	4	60	83	60	5	83	67	106	76	76	76	36	14	10	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	43	48	36	50	56	56	51	64	34	39	37	26	20	40	31	14	26	15	11	30
TOTAL EFFECTIVE LENGTH	150	140	190	130	180	140	130	190	120	150	160	150	110	160	130	130	140	150	140	140
ADJUSTED PRESSURE	0.09	0.09	0.08	0.1	0.07	0.09	0.1	0.06	0.11	0.09	0.09	0.1	0.13	0.09	0.11	0.12	0.1	0.1	0.11	0.1
ROUND DUCT SIZE	5	4	4	5	6	5	4	6	5	6	5	5	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	206	402	92	206	240	206	92	240	206	347	352	352	352	92	642	482	580	580	580	580
COOLING VELOCITY (ft/min)	492	459	46	441	423	441	57	423	492	540	558	558	558	413	161	115	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	A	B	B	A	C	A	C	C	C	B	A	B	C	C	B	A

ROOM NAME	1	2	3	4	5	6	7	8	10	13	14	15	16	17	19	20	21	22	23	24
RM LOSS MBH	1.04	1.29	0.29	1.04	1.73	1.04	0.29	1.73	1.04	2.51	1.75	1.75	1.75	0.29	2.08	1.56	2.90	2.90	2.90	2.90
CFM PER RUN HEAT	28	35	8	28	47	28	8	47	28	68	48	48	48	8	56	42	79	79	79	79
RM GAIN MBH	1.84	1.11	1.66	1.66	2.30	1.66	0.15	2.30	1.84	2.92	2.09	2.09	2.09	0.99	0.38	0.28	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	67	40	4	60	83	60	5	83	67	106	76	76	76	36	14	10	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	43	48	36	50	56	56	51	64	34	39	37	26	20	40	31	14	26	15	11	30
TOTAL EFFECTIVE LENGTH	150	140	190	130	180	140	130	190	120	150	160	150	110	160	130	130	140	150	140	140
ADJUSTED PRESSURE	0.09	0.09	0.08	0.1	0.07	0.09	0.1	0.06	0.11	0.09	0.09	0.1	0.13	0.09	0.11	0.12	0.1	0.1	0.11	0.1
ROUND DUCT SIZE	5	4	4	5	6	5	4	6	5	6	5	5	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	206	402	92	206	240	206	92	240	206	347	352	352	352	92	642	482	580	580	580	580
COOLING VELOCITY (ft/min)	492	459	46	441	423	441	57	423	492	540	558	558	558	413	161	115	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	A	B	B	A	C	A	C	C	C	B	A	B	C	C	B	A

ROOM NAME	1	2	3	4	5	6	7	8	10	13	14	15	16	17	19	20	21	22	23	24
RM LOSS MBH	1.04	1.29	0.29	1.04	1.73	1.04	0.29	1.73	1.04	2.51	1.75	1.75	1.75	0.29	2.08	1.56	2.90	2.90	2.90	2.90
CFM PER RUN HEAT	28	35	8	28	47	28	8	47	28	68	48	48	48	8	56	42	79	79	79	79
RM GAIN MBH	1.84	1.11	1.66	1.66	2.30	1.66	0.15	2.30	1.84	2.92	2.09	2.09	2.09	0.99	0.38	0.28	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	67	40	4	60	83	60	5	83	67	106	76	76	76	36	14	10	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	43	48	36	50	56	56	51	64	34	39	37	26	20	40	31	14	26	15	11	30
TOTAL EFFECTIVE LENGTH	150	140	190	130	180	140	130	190	120	150	160	150	110	160	130	130	140	150	140	140
ADJUSTED PRESSURE	0.09	0.09	0.08	0.1	0.07	0.09	0.1	0.06	0.11	0.09	0.09	0.1	0.13	0.09	0.11	0.12	0.1	0.1	0.11	0.1
ROUND DUCT SIZE	5	4	4	5	6	5	4	6	5	6	5	5	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	206	402	92	206	240	206	92	240	206	347	352	352	352	92	642	482	580	580	580	580
COOLING VELOCITY (ft/min)	492	459	46	441	423	441	57	423	492	540	558	558	558	413	161	115	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	A	B	B	A	C	A	C	C	C	B	A	B	C	C	B	A

TYPE: HIGHGROVE 4
SITE NAME: RUSSEL GARDENS

LO # 75025

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	2 @ 10.6 cfm	21.2 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm	42.4 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	148.4 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	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	9.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 60H-V+	Location: BSMT
139.0 cfm	3.0 sones
☒	HVI Approved

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

SUPPLEMENTAL FANS		NUTONE	HVI	Sones
Location	Model	cfm		
ENS	QTXEN050C	50	☒	0.3
BATH	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
139 cfm high	50 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:	July-17

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** HIGHGROVE 4**BUILDER:** GREENPARK HOMES**SFQT:** 2010**LO#** 75025**SITE:** RUSSEL GARDENS**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	74

BUILDING DATA

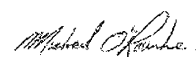
ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	WEST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	4.55	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	27110.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
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: 52.0 ft	WIDTH: 21.0 ft	EXPOSED PERIMETER:	94.0 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	-

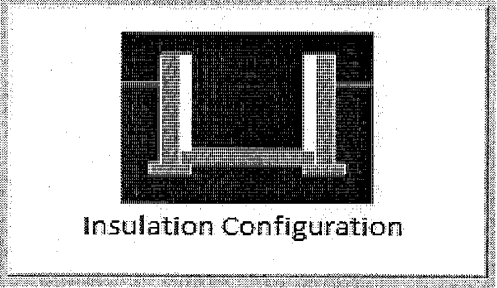
INDIVIDUAL BCIN: 19669

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):	6.4	
Exposed Perimeter (m):	28.7	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.4	
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):	857	

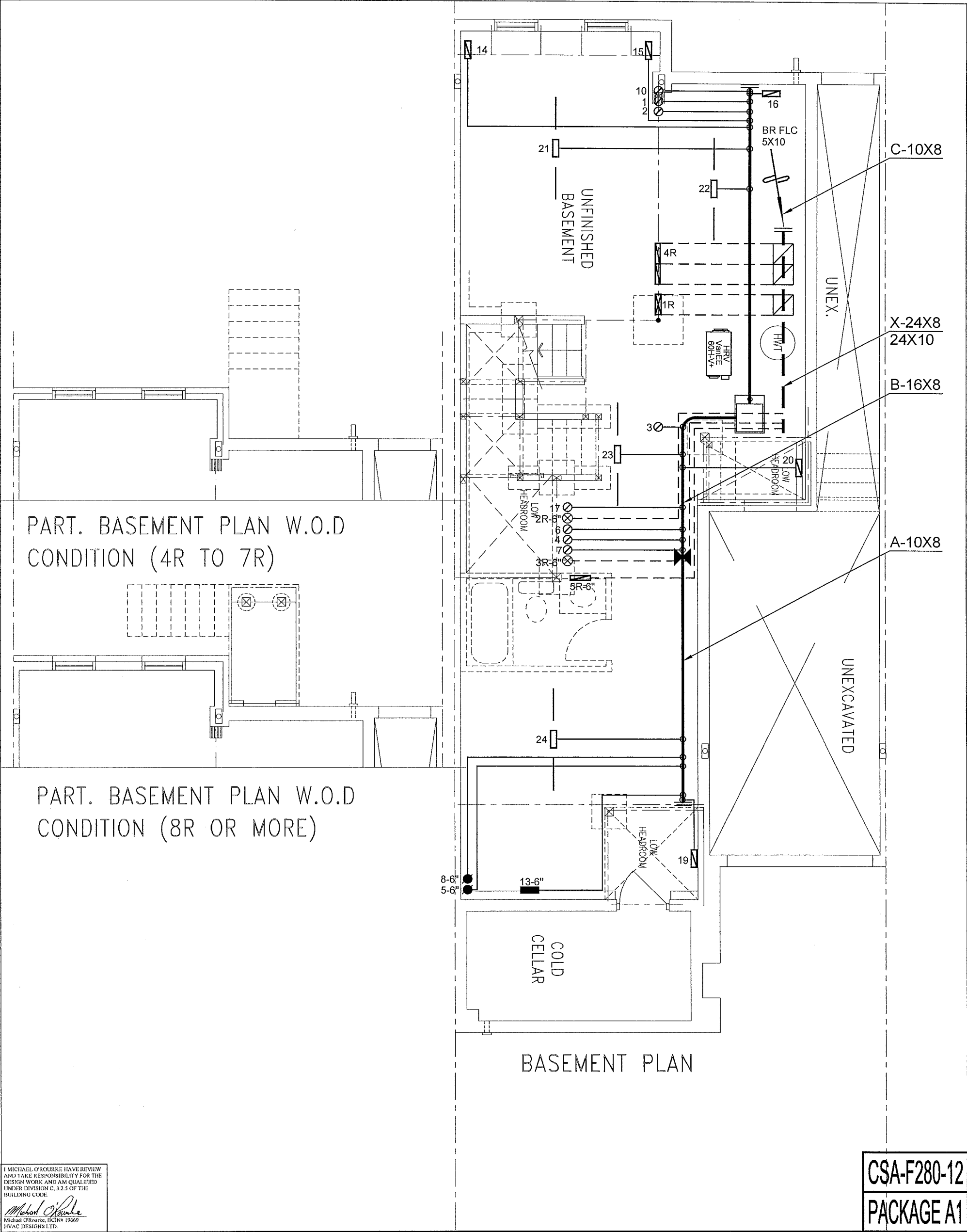
TYPE: HIGHGROVE 4
LO# 75025

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:	Semi		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	767.7		
Air Leakage/Ventilation			
Air Tightness Type:	Average (1946-1960) (4.55 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1304.2 cm ²	
	4.55	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	65.6	65.6	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
	#4		
	0		
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.409		
Cooling Air Leakage Rate (ACH/H):	0.146		

TYPE: HIGHGROVE 4
LO# 75025



PART. BASEMENT PLAN W.O.D
CONDITION (4R TO 7R)

PART. BASEMENT PLAN W.O.D
CONDITION (8R OR MORE)

BASEMENT PLAN

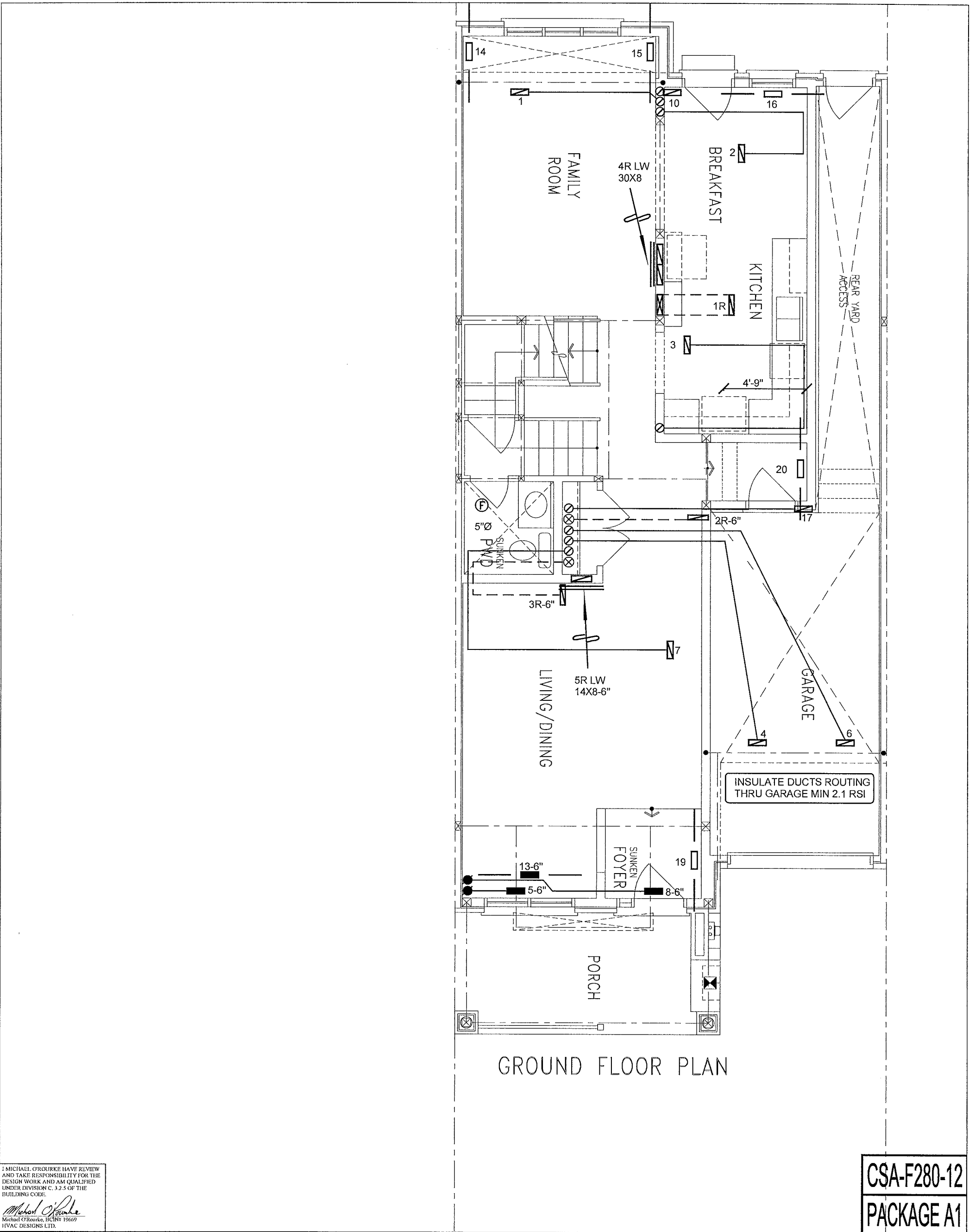
I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
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 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 35437 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			MAKE GOODMAN	3RD FLOOR				Date JULY/2017	
			MODEL GMEC9806402BNA	2ND FLOOR	10	3	3		
			INPUT 40 MBTU/H	1ST FLOOR	6	2	2		
			OUTPUT 38.4 MBTU/H	BASEMENT	4	1	0		
			COOLING 2.0 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					
HIGHGROVE 4 2010 sqft		FAN SPEED 890 cfm @ 0.6" w.c.	Scale 3/16" = 1'-0"						
			BCIN# 19669						
			LO# 75025						



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.

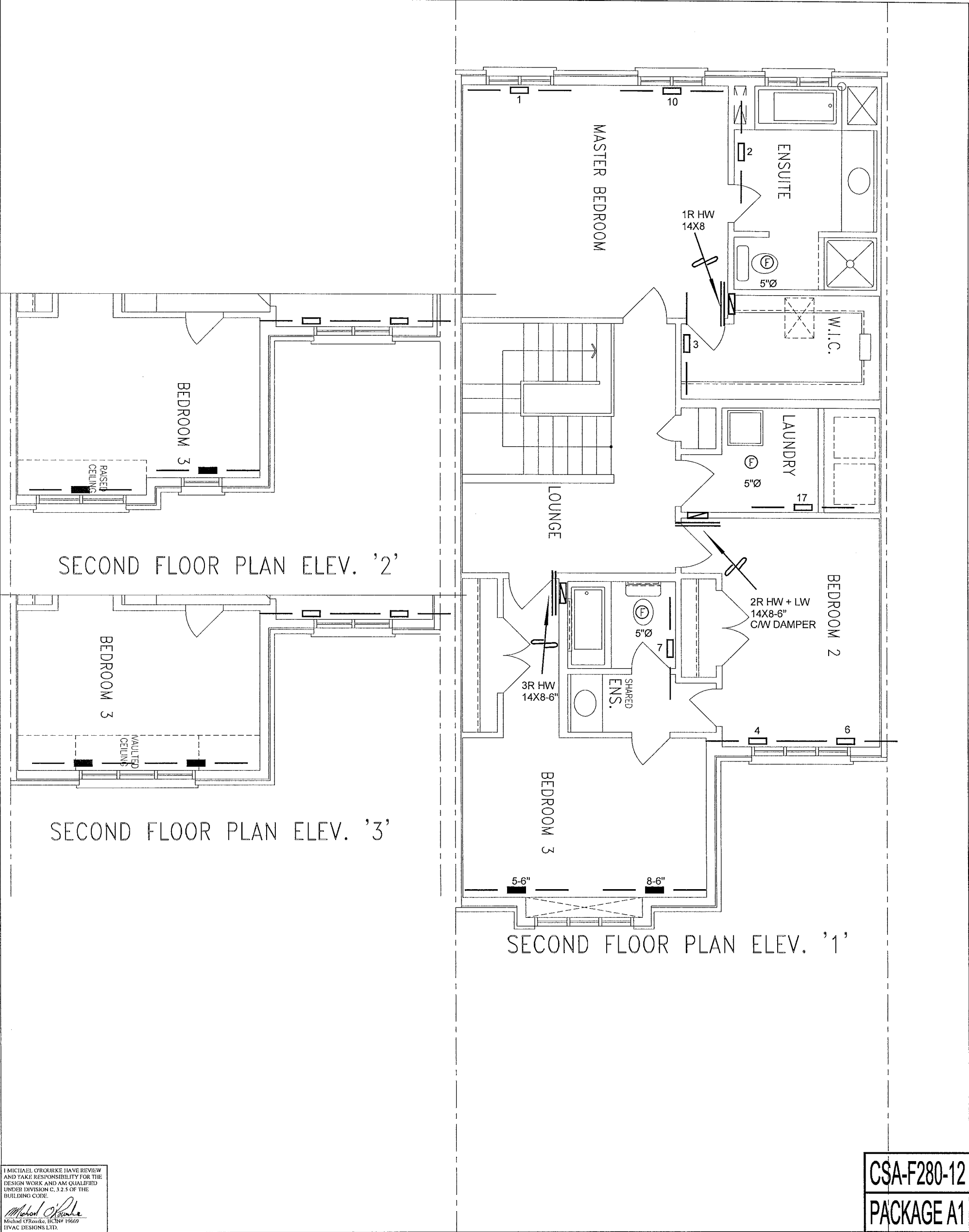
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
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 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 RUSSEL GARDENS HAMILTON, ONTARIO			Date JULY/2017	
HIGHGROVE 4 2010 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 75025	



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.

CSA-F280-12
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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Project Name RUSSEL GARDENS HAMILTON, ONTARIO			Date JULY/2017	
HIGHGROVE 4 2010 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO#	75025