

ROOM USE	FACTORS	LVDN	KTI/FM	LAUN	PWD	FOY	WOB	BAS
EXP. WALL CLG. HT.		55 10	58 10	0 9	13 10	21 10	46 9	98 9
GRS.WALL AREA	LOSS GAIN	550	580	0	130	210	414	588
GLAZING							LOSS GAIN	LOSS GAIN
NORTH	19.8 15.0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	67 1324 1070	11 217 176
EAST	19.8 41.6	0 0 0	0 0 0	0 0 0	11 217 457	0 0 0	0 0 0	0 0 0
SOUTH	19.8 24.9	43 850 1071	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
WEST	19.8 41.6	0 0 0	98 1937 4072	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SKYL.T.	34.6 101.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DOORS	23.5 4.3	20 469 85	0 0 0	0 0 0	0 0 0	45 1055 191	0 0 0	0 0 0
NET EXPOSED WALL	4.1 0.8	487 2019 366	482 1998 362	0 0 0	119 493 89	165 684 124	0 0 0	20 469 85
NET EXPOSED BSMT WALL ABOVE GR	3.3 0.6	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	347 1439 261	0 0 0
EXPOSED CLG	1.2 0.6	0 0 0	0 0 0	80 95 47	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 0 0	0 0 0	0 0 0	0 0 0	2141
SLAB ON GRADE HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	657	
SUBTOTAL HT LOSS		3338	3935	95	711	1740	3420	3811
SUB TOTAL HT GAIN		1522	4434	47	547	315	1331	439
LEVEL FACTOR / MULTIPLIER		0.30 0.63	0.30 0.63	0.20 0.43	0.30 0.63	0.30 0.63	0.50	1.42
AIR CHANGE HEAT LOSS		2117	2496	41	451	1103		10279
AIR CHANGE HEAT GAIN		166	489	5	60	35		195
DUCT LOSS								
DUCT GAIN		0	0	0	0	0		0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS		658	658	658	0	0	0	0
TOTAL HT LOSS BTU/H		5455	6431	136	1162	2843	4077	14089
TOTAL HT GAIN x 1.3 BTU/H		3052	7256	923	789	455	1730	824

31502 TONS: 2.63 LOSS DUE TO VENTILATION LOAD BTU/H: 2650 STRUCTURAL HEAT LOSS: 48016 TOTAL COMBINED HEAT LOSS BTU/H: 50655

REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
MICHAEL O'ROURKE
INDIVIDUAL BCIN: 19569

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

WOB
TYPE: HIGHGROVE 7E

DATE: Jul-17

GFA: 2484 LO# 75032

HEATING CFM	1131	COOLING CFM	1131
TOTAL HEAT LOSS	48,016	TOTAL HEAT GAIN	31,022
AIR FLOW RATE CFM	23.55	AIR FLOW RATE CFM	36.46

#GOODMAN
GMEC60603BNA 60
FAN SPEED
LOW
MEDIUM
HIGH

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	7	5
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'x2" unless noted otherwise on layout.

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-3	WIC-2	ENS-2	MBR	ENS-2	LVDN	LVDN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	BED-3	BAS	BAS	BAS	BAS
RM LOSS MBH	1.09	1.49	2.12	1.32	1.57	1.57	0.64	0.59	1.00	1.09	0.60	2.73	2.73	2.14	2.14	2.14	0.14	1.16	2.84	1.32	3.63	3.63	3.63	3.63
CFM PER RUN HEAT	26	35	50	24	31	37	15	14	24	26	14	64	64	50	50	50	3	27	67	31	86	86	86	86
RM GAIN MBH	1.97	1.27	1.09	1.62	1.84	2.10	0.38	0.13	1.62	1.97	1.97	1.53	1.53	2.42	2.42	2.42	0.92	0.79	0.46	1.84	0.51	0.51	0.51	0.51
CFM PER RUN COOLING	72	46	40	59	67	77	14	5	59	72	6	56	56	88	88	88	34	29	17	67	19	19	19	19
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	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	51	33	54	61	61	46	55	56	66	41	64	37	41	34	22	16	39	49	47	66	44	33	26	28
EQUIVALENT LENGTH	180	160	160	180	140	150	220	190	160	160	200	110	90	120	100	100	170	130	100	180	100	160	100	120
TOTAL EFFECTIVE LENGTH	231	193	214	241	211	186	205	276	256	201	264	147	131	154	102	116	209	179	147	246	154	193	126	148
ADJUSTED PRESSURE	0.07	0.09	0.08	0.07	0.08	0.09	0.08	0.06	0.07	0.09	0.07	0.12	0.13	0.11	0.16	0.14	0.08	0.1	0.12	0.07	0.11	0.08	0.13	0.11
ROUND DUCT SIZE	5	4	5	5	5	5	4	4	5	5	5	5	5	5	5	5	4	4	5	5	5	6	5	5
HEATING VELOCITY (ft/min)	191	402	367	176	228	272	172	161	176	191	161	470	470	367	367	367	34	310	492	428	631	438	631	631
COOLING VELOCITY (ft/min)	529	528	294	433	492	565	161	57	433	529	89	411	411	646	646	646	390	333	125	242	140	97	140	140
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10
TRUNK	C	D	C	A	A	C	B	A	A	C	A	B	B	C	D	D	D	A	A	A	C	C	D	B

RUN #	25
ROOM NAME	BAS
RM LOSS MBH	3.63
CFM PER RUN HEAT	86
RM GAIN MBH	0.51
CFM PER RUN COOLING	19
ADJUSTED PRESSURE	0.16
EQUIVALENT LENGTH	140
TOTAL EFFECTIVE LENGTH	185
ADJUSTED PRESSURE	0.09
ROUND DUCT SIZE	5
HEATING VELOCITY (ft/min)	631
COOLING VELOCITY (ft/min)	140
OUTLET GRILL SIZE	3X10
TRUNK	A

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE																
TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)							
TRUNK A	0.06	9.8	12	8	318	0.06	9.8	12	8	318	0.06	9.8	12	8	318	0.05	0	0	8							
TRUNK B	0.06	12	16	8	547	0.06	12	16	8	547	0.06	12	16	8	547	0.05	0	0	8							
TRUNK C	0.07	9.9	12	8	361	0.07	9.9	12	8	361	0.07	9.9	12	8	361	0.05	0	0	8							
TRUNK D	0.06	15.8	28	8	1131	0.06	15.8	28	8	1131	0.06	15.8	28	8	1131	0.05	0	0	8							
TRUNK E	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8							
TRUNK F	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8							
										TRUNK G	0.00	0	0	0	0	TRUNK H	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK I	0.00	0	0	0	0	TRUNK J	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK K	0.00	0	0	0	0	TRUNK L	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK M	0.00	0	0	0	0	TRUNK N	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK O	0.00	0	0	0	0	TRUNK P	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK Q	0.00	0	0	0	0	TRUNK R	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK S	0.00	0	0	0	0	TRUNK T	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK U	0.00	0	0	0	0	TRUNK V	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK W	0.00	0	0	0	0	TRUNK X	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK Y	0.00	0	0	0	0	TRUNK Z	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	DROP	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
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										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
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										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
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										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0	0	TRUNK	0.00	0	0	0	0	0.00	0	0	0	0
										TRUNK	0.00	0	0	0</												

TYPE: HIGHGROVE 7E
SITE NAME: RUSSEL GARDENS

LO # 75032
WOB

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	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 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	169.6	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	30.6	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	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
139	cfm high	50 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	
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 7E	WOB	BUILDER: GREENPARK HOMES
SFQT: 2484	LO# 75032	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)	75

BUILDING DATA

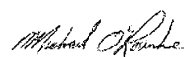
ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	4.55	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	33776.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 48.0 ft	WIDTH: 36.0 ft	EXPOSED PERIMETER:	98.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	46.0 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	-

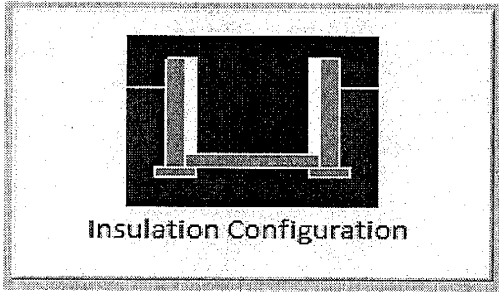
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

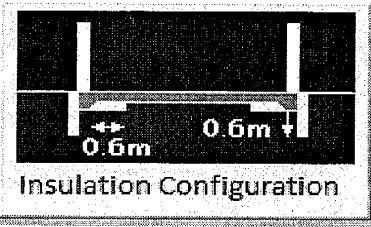
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	6.1	 Insulation Configuration
Floor Width (m):	11.0	
Exposed Perimeter (m):	29.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.59	
Window Area (m ²):	1.0	
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):		627

TYPE: HIGHGROVE 7E
LO# 75032

WOB

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		
Length (m):	3.0	 Insulation Configuration
Width (m):	11.0	
Exposed Perimeter (m):	14.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		193

TYPE: HIGHGROVE 7E
LO# 75032

WOB

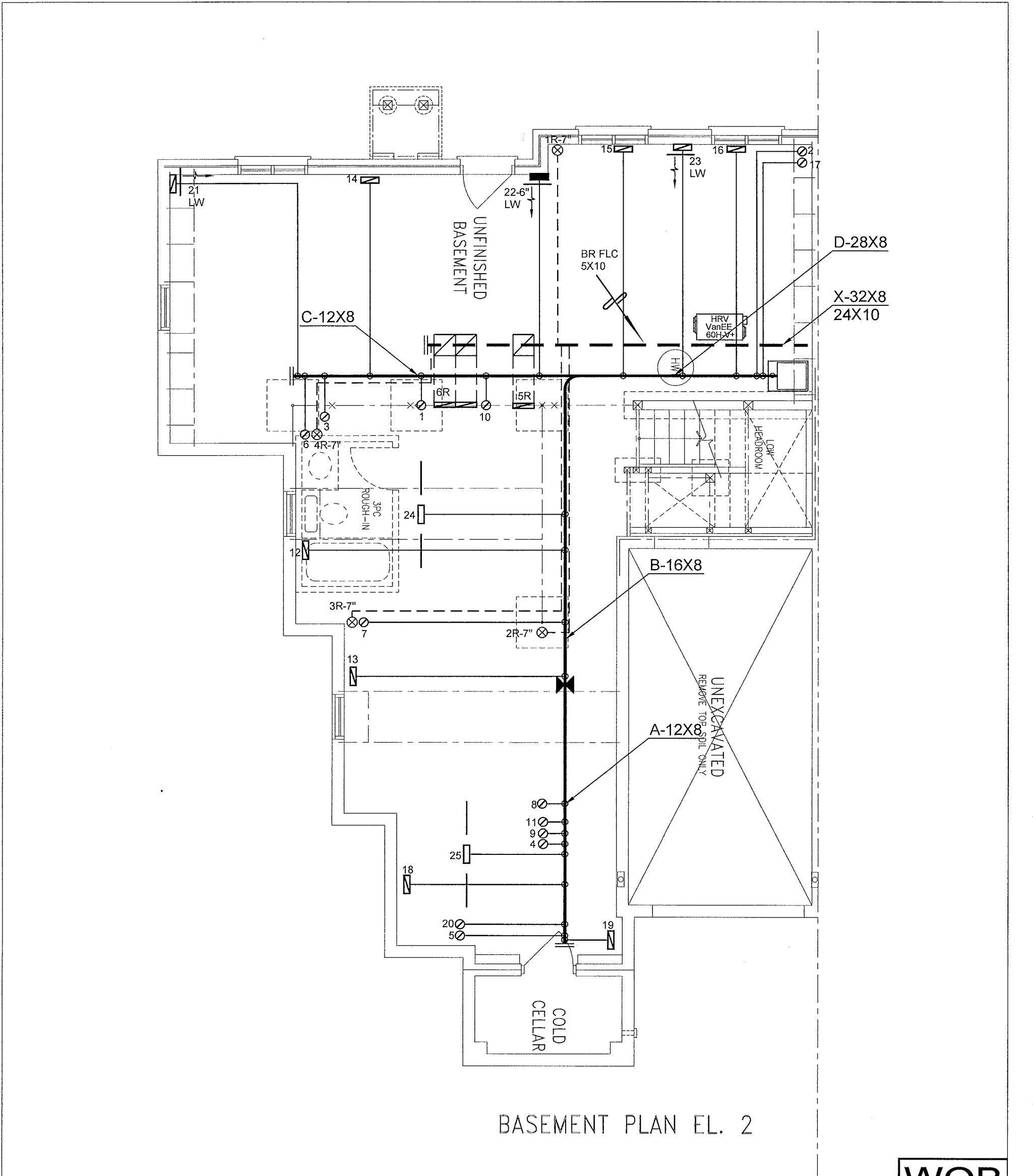
Air Infiltration Residential Load Calculator

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:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	956.4			
Air Leakage/Ventilation				
Air Tightness Type:	Average (1946-1960) (4.55 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1624.9 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	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.482			
Cooling Air Leakage Rate (ACH/H):	0.167			

TYPE: HIGHGROVE 7E
LO# 75032

WOB



BASEMENT PLAN EL. 2

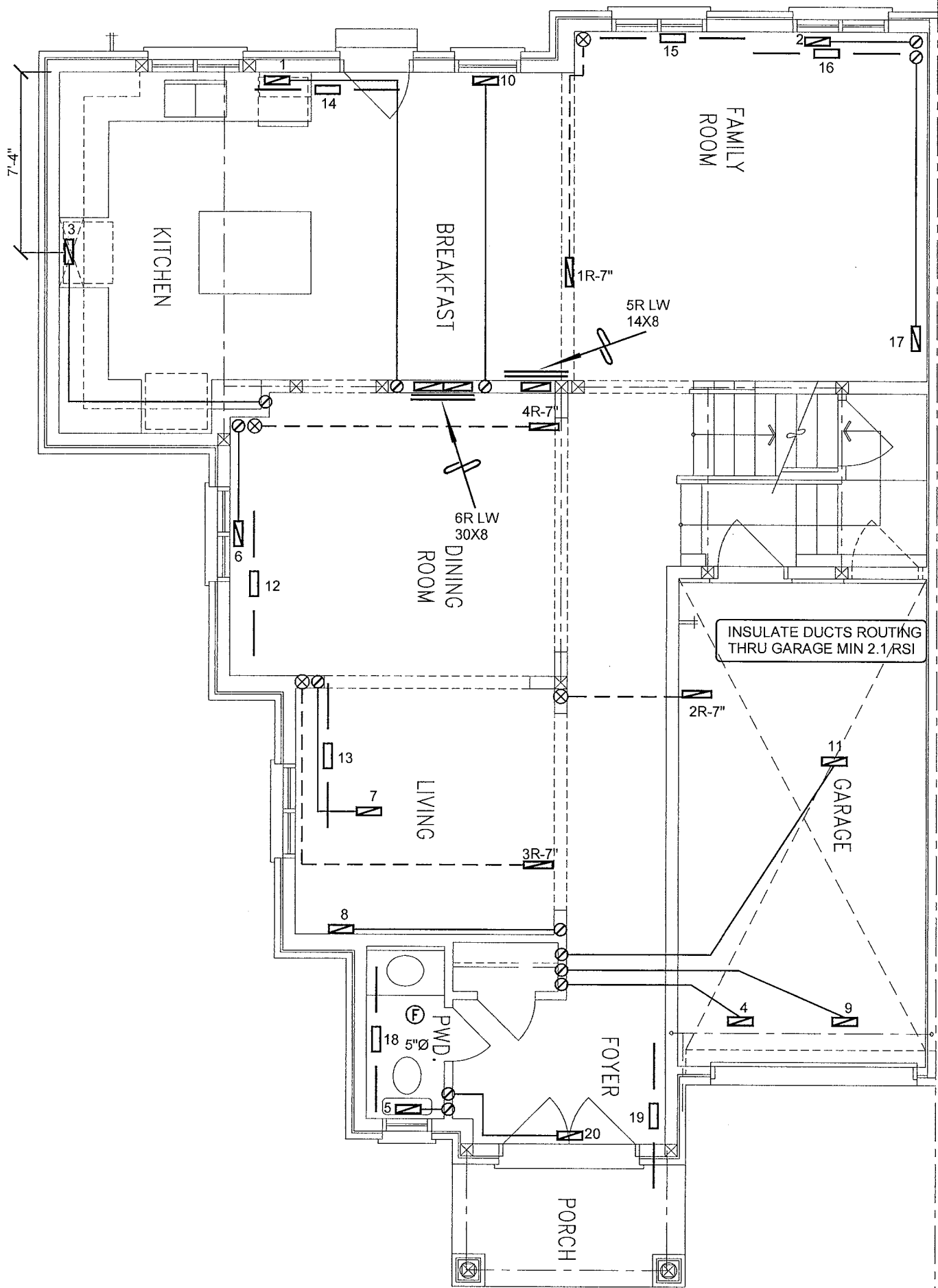
WOB
CSA-F280-12
PACKAGE A1

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.
Michael O'Rourke
Michael O'Rourke, INC# 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.	
	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		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 50665 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			MAKE GOODMAN		3RD FLOOR				BASEMENT HEATING LAYOUT	
			MODEL GMEC960603BNA		2ND FLOOR	13	4	4		
			INPUT 60 MBTU/H		1ST FLOOR	7	2	2		
			OUTPUT 57.6 MBTU/H		BASEMENT	5	1	0	Date	JULY/2017
			COOLING 2.5 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				Scale	3/16" = 1'-0"
			FAN SPEED 1131 cfm @ 0.6" w.c.						BCIN# 19669	
WOB HIGHGROVE 7E 2484 sqft									LO#	75032



GROUND FLOOR PLAN EL. 2

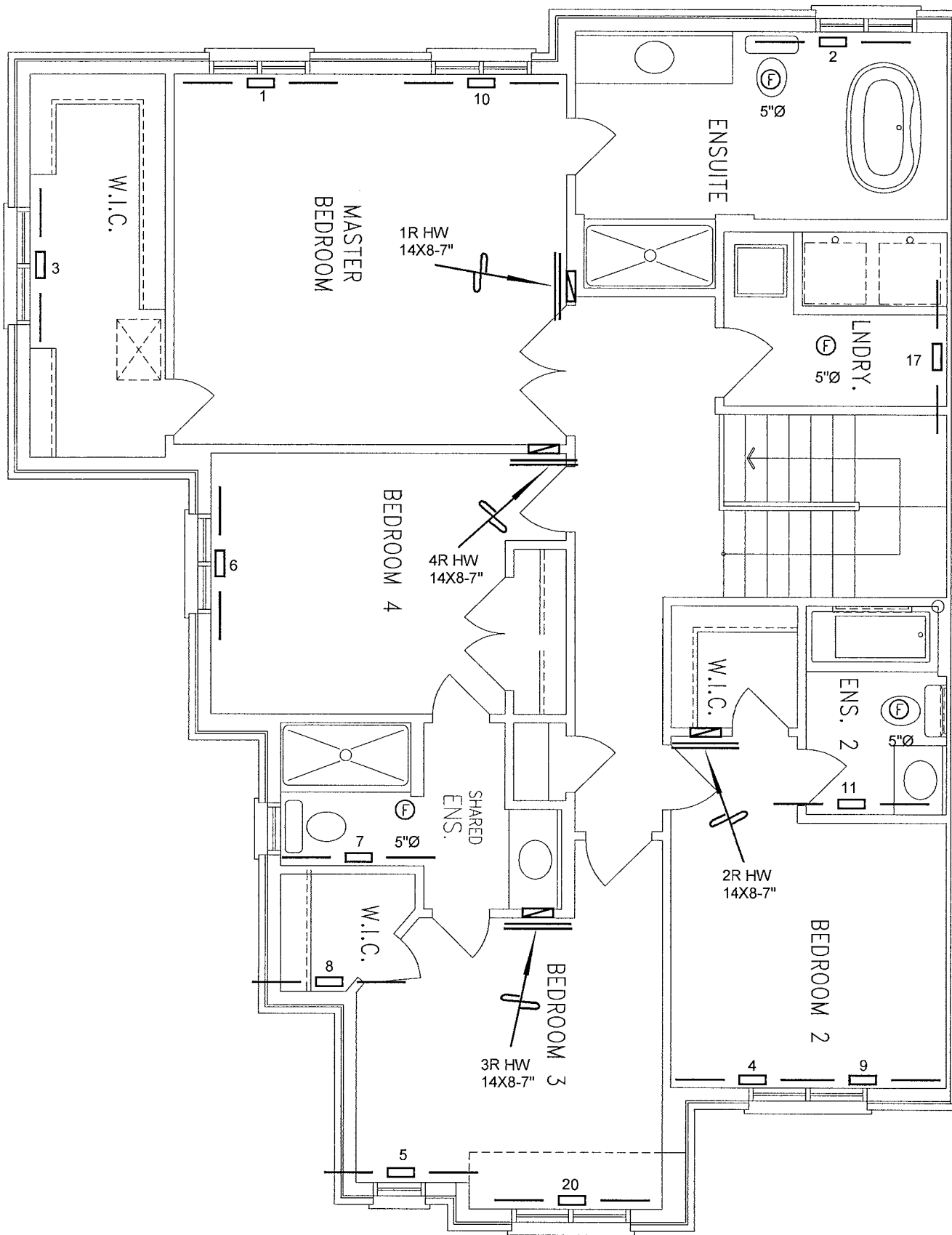
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOB
CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
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	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		 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 RUSSEL GARDENS HAMILTON, ONTARIO			Date	JULY/2017
WOB HIGHGROVE 7E 2484 sqft			Scale	3/16" = 1'-0"
			BCIN# 19669	
		LO#	75032	



SECOND FLOOR PLAN EL. 2

WOB
CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 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	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	Scale 3/16" = 1'-0"
WOB HIGHGROVE 7E 2484 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# 75032	