

## Block 122 Units 37 to 42

SITE NAME: BARLASSINA										DATE: Aug-22										WINTER NATURAL AIR CHANGE RATE 0.319										HEAT LOSS ΔT °F. 72										CSA-F280-12																													
BUILDER: GREENPARK HOMES										TYPE: WILLOW 1										GFA: 1696										LO# 98653										SUMMER NATURAL AIR CHANGE RATE 0.085										HEAT GAIN ΔT °F. 9										SB-12 PACKAGE A1									
ROOM USE				MBR		ENS				BED-2		BED-3		FLEX		BATH																																																					
EXP. WALL				20		0				10		16		0		0																																																					
CLG. HT.				9		9				9		9		9		9																																																					
FACTORS																																																																					
GRS.WALL AREA		LOSS GAIN		180		0				90		144		0		0																																																					
GLAZING				LOSS GAIN		LOSS GAIN				LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN																																																					
NORTH		20.3	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
EAST		20.3	40.5	0	0	0	0	0	0	0	23	466	933	24	487	973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
SOUTH		20.3	23.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
WEST		20.3	40.5	24	487	973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
SKYLT.		35.5	99.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
DOORS		19.1	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
NET EXPOSED WALL		4.3	0.5	156	663	84	0	0	0	0	67	285	36	120	510	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
NET EXPOSED BSMT WALL ABOVE GR		3.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
EXPOSED CLG		1.2	0.5	280	342	148	110	134	58	0	170	208	90	120	147	63	260	318	137	84	103	44	0	0	0	0	0	0	0	0	0	0																																					
NO ATTIC EXPOSED CLG		2.6	1.1	0	0	0	0	0	0	0	0	0	0	12	31	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
EXPOSED FLOOR		2.4	0.3	52	126	16	40	97	12	0	170	413	52	18	44	6	12	29	4	24	58	7	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																																					
SLAB ON GRADE HEAT LOSS				0		0				0		0		0		0		0		0		0		0		0		0		0		0																																					
SUBTOTAL HT LOSS				1618		232				1372		1219		347		161																																																					
SUB TOTAL HT GAIN						70				1111		1120		141		52																																																					
LEVEL FACTOR / MULTIPLIER		0.20 0.37		0.20 0.37						0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37																																																					
AIR CHANGE HEAT LOSS				604		86				512		455		130		60																																																					
AIR CHANGE HEAT GAIN				84		5				76		77		10		4																																																					
DUCT LOSS				222		32				188		167		48		22																																																					
DUCT GAIN				249		8				213		214		85		6																																																					
HEAT GAIN PEOPLE		240	2	480	0	0	0	0	0	1	240	1	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																					
HEAT GAIN APPLIANCES/LIGHTS				701		0				701		701		701		701																																																					
TOTAL HT LOSS BTU/H				2445		350				2073		1841		524		243																																																					
TOTAL HT GAIN x 1.3 BTU/H				3554		107				3043		3057		1217		79																																																					

ROOM USE					K/L/D						MUD		FOY								BAS			
EXP. WALL					44						13		29								86			
CLG. HT.					10						10		10								9			
FACTORS																								
GRS.WALL AREA	LOSS	GAIN			440						130		290								516			
GLAZING					LOSS		GAIN				LOSS		GAIN								LOSS		GAIN	
NORTH	20.3	15.0			0		0		0		0		0		0						0		0	
EAST	20.3	40.5			0		0		0		0		0		0						0		0	
SOUTH	20.3	23.9			0		0		0		0		0		0						0		0	
WEST	20.3	40.5			42		851		1703		0		0		0						0		0	
SKYLT.	35.5	99.8			0		0		0		0		0		0						4		81	
DOORS	19.1	2.4			10		191		24		20		382		49		11		210		27		0	
NET EXPOSED WALL	4.3	0.5			388		1650		210		110		468		59		265		1127		143		20	
NET EXPOSED BSMT WALL ABOVE GR	3.4	0.4			0		0		0		0		0		0		0		0		0		382	
EXPOSED CLG	1.2	0.5			0		0		0		0		0		0		0		0		0		49	
NO ATTIC EXPOSED CLG	2.6	1.1			0		0		0		0		0		0		0		0		0		112	
EXPOSED FLOOR	2.4	0.3			0		0		0		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS					0						0		0		0						0		0	
SLAB ON GRADE HEAT LOSS					0						0		0		0						2563		0	
SUBTOTAL HT LOSS					2692						850		1621								3911		323	
SUB TOTAL HT GAIN							1937						108				737							
LEVEL FACTOR / MULTIPLIER			0.30		0.54						0.30		0.54								0.50		1.18	
AIR CHANGE HEAT LOSS					1445						456		870								4618			
AIR CHANGE HEAT GAIN							133				7				51								22	
DUCT LOSS					0						0		0								0			
DUCT GAIN							0				0		0										0	
HEAT GAIN PEOPLE	240				0		0				0		0		0						0		0	
HEAT GAIN APPLIANCES/LIGHTS							701				0		0								0		0	
TOTAL HT LOSS BTU/H					4137						1306		2490								8529		701	
TOTAL HT GAIN x 1.3 BTU/H					3602						150		1025										1360	

**TOTAL HEAT GAIN BTU/H:**

17351

TONS: 1.45

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 23938

**TOTAL COMBINED HEAT LOSS BTU/H: 25181**

GFA: 1696      LO# 98653

AFUE = 96 %  
INPUT (BTU/H) = 30,000  
OUTPUT (BTU/H) = 28,800

DESIGN CFM = 614  
CFM @ .6" E.S.P.

TEMPERATURE RISE 43 °F

RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.
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I 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

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: WILLOW 1  
SITE NAME: BARLASSINA

LO # 98653

### 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
<b>TOTAL</b>	<b>63.6</b>	<b>cfm</b>

**SUPPLEMENTAL VENTILATION CAPACITY** 9.32.3.5.

Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	84.8	cfm

**PRINCIPAL EXHAUST FAN CAPACITY**

Model: VANEE V150H Location: BSMT

63.6 cfm ☒ HVI Approved

**PRINCIPAL EXHAUST HEAT LOSS CALCULATION**

CFM	$\Delta T$ °F	FACTOR	% LOSS
63.6 CFM	72 F	1.08	0.25

**SUPPLEMENTAL FANS** BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
BATH	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
LAUN	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
PWD	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5

**HEAT RECOVERY VENTILATOR** 9.32.3.11.

Model: VANEE V150H

150 cfm high 35 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: *Michael O'Rourke*

HRAI # 001820

Date: August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98653		Model: WILLOW 1		Date: 2022-08-30																																																								
<b>Volume Calculation</b>			<b>Air Change &amp; Delta T Data</b>																																																									
<b>House Volume</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>706</td> <td>9</td> <td>6354</td> </tr> <tr> <td>First</td> <td>706</td> <td>10</td> <td>7060</td> </tr> <tr> <td>Second</td> <td>990</td> <td>9</td> <td>8910</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>22,324.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>632.1 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	706	9	6354	First	706	10	7060	Second	990	9	8910	Third	0	9	0	Fourth	0	9	0	Total:			22,324.0 ft³	Total:			632.1 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.319</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.085</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-18</td> <td>40</td> <td>72</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>29</td> <td>5</td> <td>9</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.319	SUMMER NATURAL AIR CHANGE RATE	0.085	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-18	40	72	Summer DTDc	24	29	5	9
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<b>5.2.3.1 Heat Loss due to Air Leakage</b> $HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.319 x 175.60 x 40 °C x 1.2 = 2707 W</p> <p>= 9237 Btu/h</p>			<b>6.2.6 Sensible Gain due to Air Leakage</b> $HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.085 x 175.60 x 5 °C x 1.2 = 91 W</p> <p>= 311 Btu/h</p>																																																									
<b>5.2.3.2 Heat Loss due to Mechanical Ventilation</b> $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h</p>			<b>6.2.7 Sensible heat Gain due to Ventilation</b> $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 9 °F x 1.08 x 0.25 = 158 Btu/h</p>																																																									
<b>5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>																																																												
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL<sub>clevel</sub>)</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center;">9,237</td> <td>3,911</td> <td>1.181</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>5,162</td> <td>0.537</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>4,949</td> <td>0.373</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table> <p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL <sub>clevel</sub> )	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	9,237	3,911	1.181	2	0.3	5,162	0.537	3	0.2	4,949	0.373	4	0	0	0.000	5	0	0	0.000																														
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**HEAT LOSS AND GAIN SUMMARY SHEET****MODEL:** WILLOW 1**BUILDER:** GREENPARK HOMES**SFQT:** 1696**LO#** 98653**SITE:** BARLASSINA**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

**BUILDING DATA**

ATTACHMENT:	ATTACHED	# 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):	22324.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
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: 16.0 ft	EXPOSED PERIMETER:	86.0 ft

<b>2012 OBC - COMPLIANCE PACKAGE</b>		<b>Compliance Package A1</b>	
<b>Component</b>	<b>NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS &amp; DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.</b>	<b>Nominal</b>	<b>Min. Eff.</b>
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/ERV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.8	-

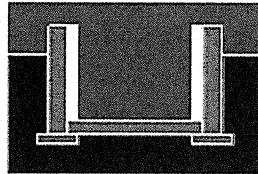
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Cambridge	
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):	4.9	
Exposed Perimeter (m):	26.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m <sup>2</sup> ):	0.4	
Door Area (m <sup>2</sup> ):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		751

TYPE: WILLOW 1  
LO# 98653



NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS  
& DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION  
BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE  
OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING  
CODE AND ANY OTHER REFERENCED REQUIREMENTS.

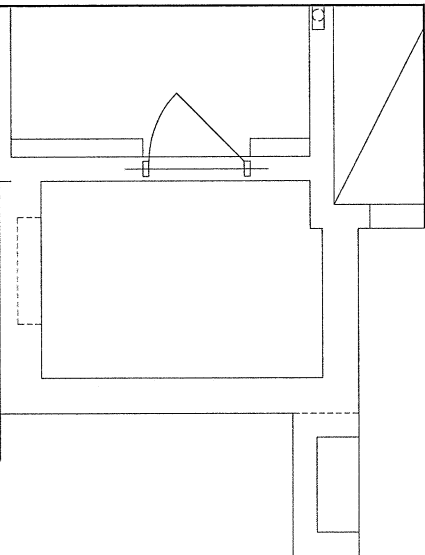
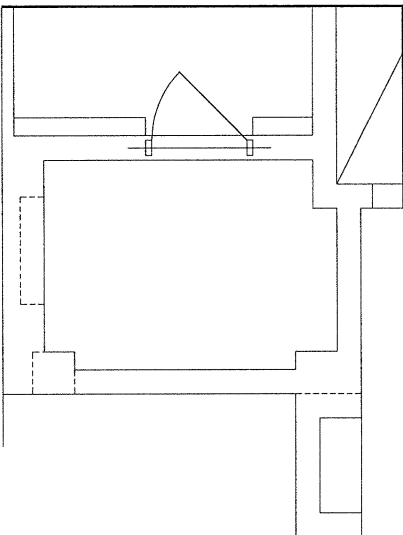
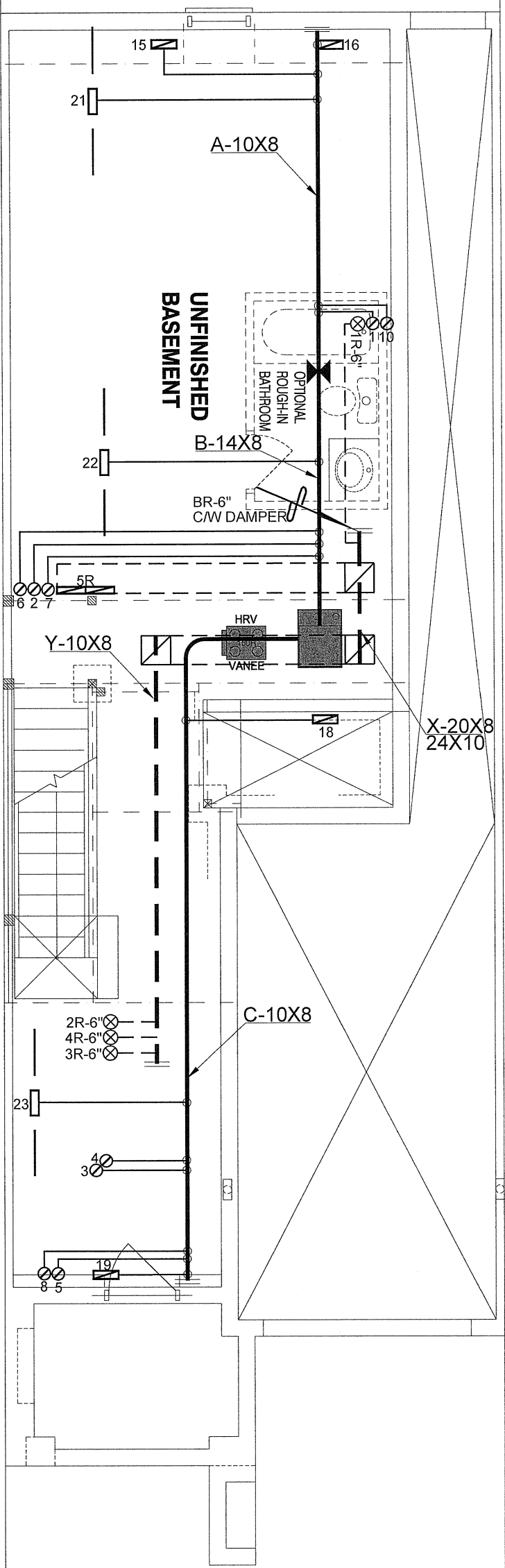
## Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
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 <sup>3</sup> ):	632.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	842.7 cm <sup>2</sup>		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.319			
Cooling Air Leakage Rate (ACH/H):	0.085			

TYPE: WILLOW 1  
LO# 98653

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BASEMENT PLAN EL-1

BASEMENT PLAN EL-3

BASEMENT PLAN EL-2

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.

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CSA-F280-12  
PACKAGE A1

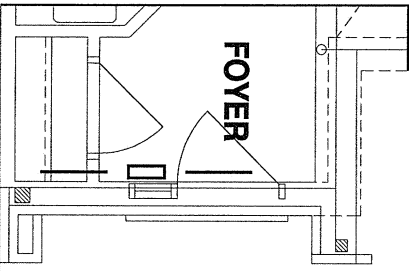
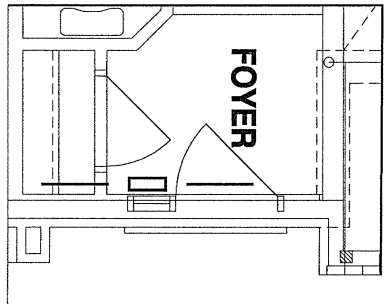
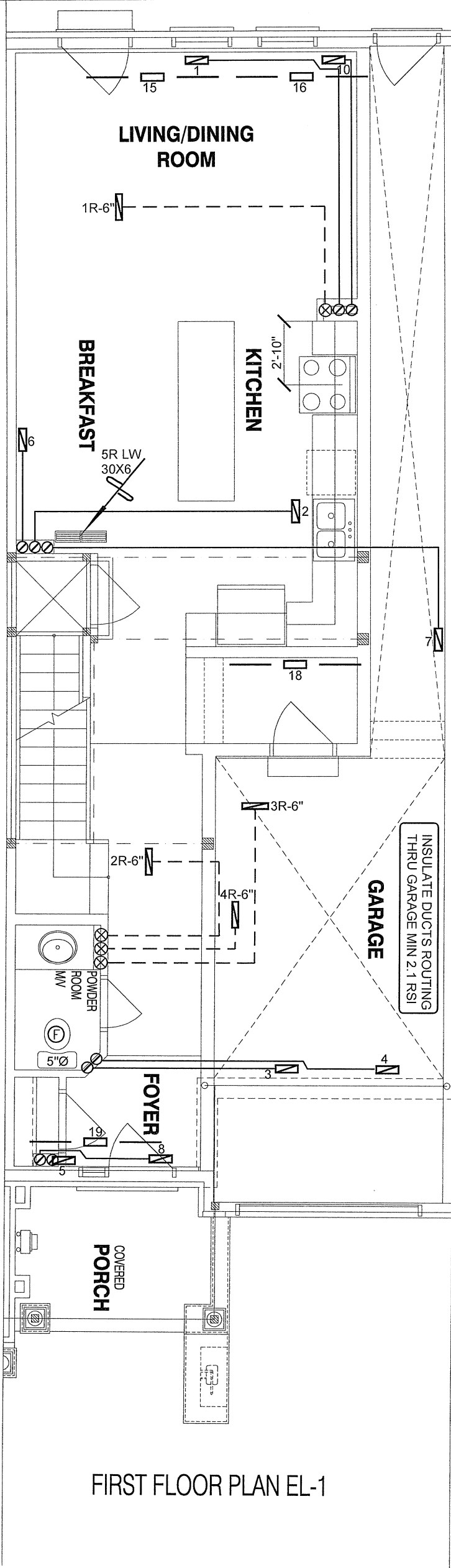
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 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		<div><div>HVACDESIGNS LTD.</div><div>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</div></div>	HEAT LOSS 25181 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES			MAKE GOODMAN		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960302BNA		2ND FLOOR	9	4	3	
Block 122 Units 37 to 42			INPUT 30 MBTU/H		1ST FLOOR	4	1	2	
WILLOW 1 1696 sqft			OUTPUT 28.8 MBTU/H		BASEMENT	3	1	0	Date AUG/2022
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.		COOLING 1.5 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 614 cfm @ 0.6" w.c.						BCIN# 19669	
								LO# 98653	



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FIRST FLOOR PLAN EL-1

FIRST FLOOR PLAN EL-3

FIRST FLOOR PLAN EL-2

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

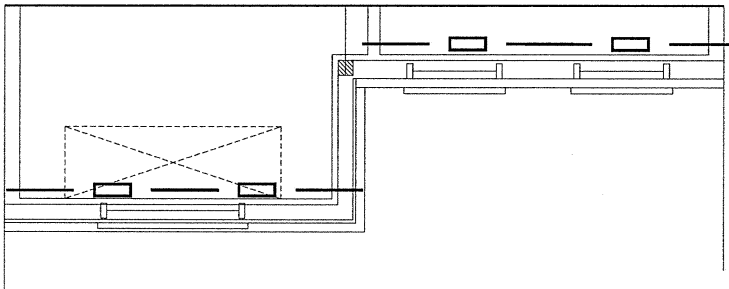
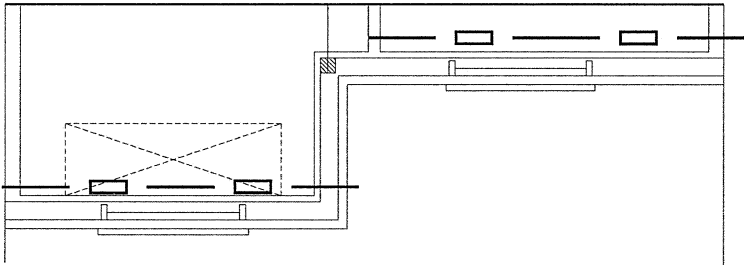
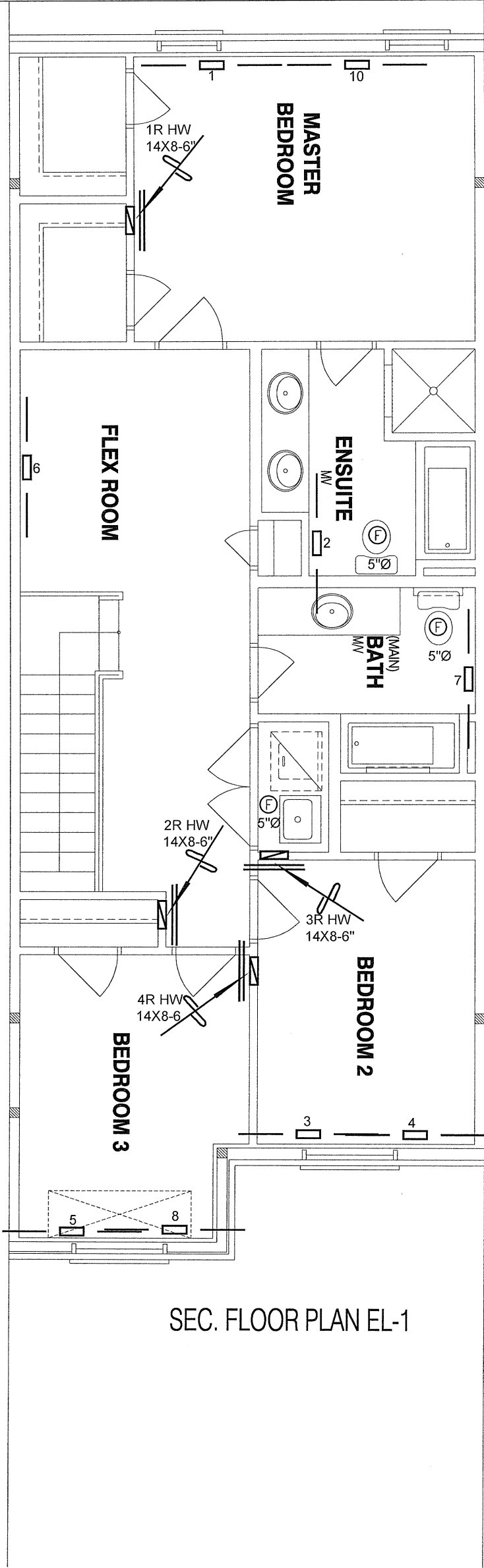
CSA-F280-12  
PACKAGE A1

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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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 37 to 42			BCIN# 19669	
WILLOW 1	1696 sqft		LO#	98653

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SEC. FLOOR PLAN EL-1

SEC. FLOOR PLAN EL-3

SEC. FLOOR PLAN EL-2

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.		
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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 37 to 42			BCIN# 19669	
WILLOW 1	1696 sqft		LO#	98653