HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: LAMBERT'S LANE PH.2
BUILDER: GREENPARK HOMES
TYPE: HORIZON 2
GFA: 2008
DATE: Feb-19
LOT# 61376
WINTER NATURAL AIR CHANGE RATE 0.282
SUMMER NATURAL AIR CHANGE RATE 0.088
HEAT LOSS ΔT °F. 74
HEAT GAIN ΔT °F. 11
CSA-F280-12
ENERGYSTAR

ROOM USE			MBR			ENS				BED-3			BED-2			BATH		
EXP. WALL			16			7				13			11			0		
CLG. HT.			9			9				9			9			9		
	FACTORS																	
GRS.WALL AREA	LOSS	GAIN	144			63				117			99			0		
GLAZING			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	18.6	15.1	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
EAST	18.6	40.7	0	0	0	0	0	0		18	334	733	24	445	977	0	0	0
SOUTH	18.6	24.1	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
WEST	18.6	40.7	30	557	1222	11	204	448		0	0	0	0	0	0	0	0	0
SKYLT.	31.2	99.9	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	114	401	59	52	183	27		99	348	52	76	264	39	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	224	291	135	98	123	56		210	263	117	183	229	102	132	165	74
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0		0	0	0	25	70	31	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0				0			0			0	
SLAB ON GRADE HEAT LOSS				0			0				0			0			0	
SUBTOTAL HT LOSS				1238			510				945			1008			165	
SUB TOTAL HT GAIN					1406			630				902			1149			74
LEVEL FACTOR / MULTIPLIER			0.20	0.52		0.20	0.52			0.20	0.52		0.20	0.52		0.20	0.52	
AIR CHANGE HEAT LOSS				643			265				491			523			86	
AIR CHANGE HEAT GAIN					108			41				70			89			6
DUCT LOSS				0			0				0			0			0	
DUCT GAIN					0			0				0			0			0
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					546			0				546			546			0
TOTAL HT LOSS BTU/H				1881			774				1436			1531			251	
TOTAL HT GAIN x 1.3 BTU/H					3303			742				2285			2632			103

ROOM USE			LV/DN				KT/FM				LAUN			FOY			BAS		
EXP. WALL			17				21				0			6			46		
CLG. HT.			10				10				9			10			9		
	FACTORS																		
GRS.WALL AREA	LOSS	GAIN	170				210				0			60			276		
GLAZING			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	18.6	15.1	0	0	0		0	0	0		0	0	0	0	0		111	91
EAST	18.6	40.7	49	909	1995		0	0	0		0	0	0	7	130	285	0	0	0
SOUTH	18.6	24.1	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
WEST	18.6	40.7	0	0	0		46	836	1832		0	0	0	0	0	0	0	0	0
SKYLT.	31.2	99.9	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0		20	493	73		0	0	0	20	493	73	20	493	73
NET EXPOSED WALL	3.5	0.5	121	426	63		145	510	76		0	0	0	33	116	17	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0		0	0	0		0	0	0	0	0	0	138	485	72
EXPOSED CLG	1.3	0.6	0	0	0		0	0	0		154	193	86	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0				0				0			0			1517	
SLAB ON GRADE HEAT LOSS				0				0				0			0			2606	
SUBTOTAL HT LOSS				1334				1538				193			739				236
SUB TOTAL HT GAIN					2058				1981				86			375			
LEVEL FACTOR / MULTIPLIER			0.30	0.81			0.30	0.81			0.20	0.52		0.30	0.81		0.50	2.02	
AIR CHANGE HEAT LOSS				1078				1486				100			597			5270	
AIR CHANGE HEAT GAIN					159				153				7			29			18
DUCT LOSS				0				0				0			0			0	
DUCT GAIN					0				0				0			0			0
HEAT GAIN PEOPLE	240		0		0		0		0		0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					546				546				546			0			546
TOTAL HT LOSS BTU/H				2413				3323				293			1336			7877	
TOTAL HT GAIN x 1.3 BTU/H					3592				3484				831			526			1041

TOTAL HEAT GAIN BTU/H: 15726 TONS: 1.56 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 21117 TOTAL COMBINED HEAT LOSS BTU/H: 22392

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.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

RECEIVED
JUN 05 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

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SITE NAME: LAMBERT'S LANE PH.2
BUILDER: GREENPARK HOMES

TYPE: HORIZON 2 DATE: Feb-19 GFA: 2008 LO# 81375

HEATING CFM	557	COOLING CFM	557
TOTAL HEAT LOSS	21,117	TOTAL HEAT GAIN	18,537
AIR FLOW RATE CFM	26.38	AIR FLOW RATE CFM	30.05

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.03
min adjusted pressure s/a	0.15
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

#GOODMAN
GMEC960302BNA 30
FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH 557
HIGH 695

AFUE = 96 %
INPUT (BTU/H) = 30,000
OUTPUT (BTU/H) = 28,800
DESIGN CFM = 557
CFM @ .6 " E.S.P.
TEMPERATURE RISE 48 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	7	4	3
R/A	0	0	2	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	4	5	7	10	12	14	15	17	19	21	22	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BATH	MBR	LV/DN	KT/FM	KT/FM	LAUN	FOY	BAS	BAS	BAS
RM LOSS MBH.	0.94	0.77	1.44	1.53	0.25	0.94	2.41	1.66	1.66	0.29	1.34	2.63	2.63	2.63
CFM PER RUN HEAT	25	20	38	40	7	25	64	44	44	8	35	69	69	69
RM GAIN MBH.	1.65	0.74	2.28	2.63	0.10	1.65	3.59	1.74	1.74	0.83	0.53	0.35	0.35	0.35
CFM PER RUN COOLING	50	22	69	79	3	50	108	52	52	25	16	10	10	10
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	55	44	33	44	23	63	38	40	29	27	25	35	17	27
EQUIVALENT LENGTH	180	180	160	140	190	170	130	110	110	170	140	130	140	120
TOTAL EFFECTIVE LENGTH	235	224	193	184	213	233	168	150	139	197	165	165	157	147
ADJUSTED PRESSURE	0.07	0.08	0.09	0.09	0.08	0.07	0.09	0.11	0.12	0.09	0.1	0.1	0.11	0.12
ROUND DUCT SIZE	5	4	5	5	4	5	6	4	5	4	4	5	5	5
HEATING VELOCITY (ft/min)	184	229	279	294	80	184	326	505	323	92	402	507	507	507
COOLING VELOCITY (ft/min)	367	252	507	580	34	367	551	597	362	287	184	73	73	73
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	B	B	A	B	A	A	B	B	A	A	B

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	

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SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	276	0.07	9	10	x	8	497
TRUNK B	281	0.08	8.7	10	x	8	506
TRUNK C	0	0.00	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0
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

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.07	0	0	x	8	0
TRUNK P	0	0.07	0	0	x	8	0
TRUNK Q	0	0.07	0	0	x	8	0
TRUNK R	0	0.07	0	0	x	8	0
TRUNK S	0	0.07	0	0	x	8	0
TRUNK T	0	0.07	0	0	x	8	0
TRUNK U	0	0.07	0	0	x	8	0
TRUNK V	0	0.07	0	0	x	8	0
TRUNK W	0	0.07	0	0	x	8	0
TRUNK X	557	0.07	11.6	16	x	8	627
TRUNK Y	265	0.07	8.8	10	x	8	477
TRUNK Z	0	0.07	0	0	x	8	0
DROP	557	0.07	11.6	24	x	10	334

RETURN AIR #	1	2		4	5												BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	160	85	0	120	105	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	87
ACTUAL DUCT LGH.	43	46	1	19	37	1	1	1	1	1	1	1	1	1	1	1	0.15
EQUIVALENT LENGTH	150	155	0	140	145	0	0	0	0	0	0	0	0	0	0	0	14
TOTAL EFFECTIVE LH	193	201	1	159	182	1	1	1	1	1	1	1	1	1	1	1	135
ADJUSTED PRESSURE	0.08	0.07	14.80	0.09	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	149
ROUND DUCT SIZE	7.1	5.8	0	6.2	6	0	0	0	0	0	0	0	0	0	0	0	0.10
INLET GRILL SIZE	8	8	0	8	8	0	0	0	0	0	0	0	0	0	0	0	5.3
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	8
INLET GRILL SIZE	14	14	0	14	14	0	0	0	0	0	0	0	0	0	0	0	X
																	14

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Michael O'Rourke INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: HORIZON 2 LO # 81375
SITE NAME: LAMBERT'S LANE PH.2

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	3	@ 10.6 cfm	31.8	cfm
Other Rooms	2	@ 10.6 cfm	21.2	cfm
Table 9.32.3.A.		TOTAL	116.6	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	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	116.6	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	53.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 65H Location: BSMT
63.6 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
63.6 CFM	X	74 F	X	1.08	X	0.25

SUPPLEMENTAL FANS PANASONIC

Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	✓	0.3
BATH	FV-05-11VK1	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 65H
155 cfm high 84 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: February-19

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.
INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 81375 Model: HORIZON 2 Builder: GREENPARK HOMES Date: 2019-02-05

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1004	9	9036
First	1004	10	10040
Second	1004	9	9036
Third	0	9	0
Fourth	0	9	0
		Total:	28,112.0 ft³
		Total:	796.0 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.282
SUMMER NATURAL AIR CHANGE RATE	0.088

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

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

0.282 x 221.12 x 41 °C x 1.2 = 3089 W

= 10540 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

= 0.088 x 221.12 x 6 °C x 1.2 = 143 W

= 489 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

64 CFM x 74 °F x 1.08 x 0.25 = 1274 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

64 CFM x 11 °F x 1.08 x 0.25 = 189 Btu/h

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL_{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	10,540	2,606	2.022
2	0.3		4,167	0.759
3	0.2		4,060	0.519
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

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: HORIZON 2 **BUILDER:** GREENPARK HOMES
SFQT: 2008 **LO#** 81375 **SITE:** LAMBERT'S LANE PH.2

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
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:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	28112.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 46.0 ft	WIDTH: 22.0 ft	EXPOSED PERIMETER:	46.0 ft

2012 OBC - COMPLIANCE PACKAGE Component		Compliance Package ENERGYSTAR	
		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.70
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		R22+R5	21.10
Basement Walls Minimum RSI (R)-Value		20	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		ZONE 2	-
Skylights Maximum U-Value		ZONE 2	-
Space Heating Equipment Minimum AFUE		0.96	-
HRV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.9	-

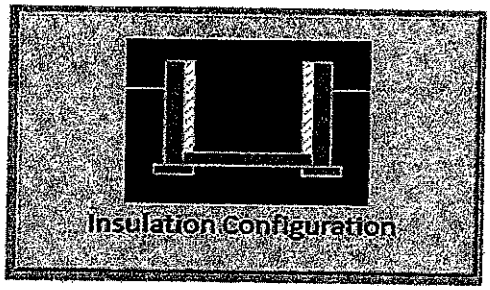
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	14.0	 Insulation Configuration
Floor Width (m):	6.7	
Exposed Perimeter (m):	14.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	0.6	
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):	**445**

TYPE: HORIZON 2
LO# 81375

THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description					
Province:	Ontario				
Region:	Brampton				
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):	796.0				
Air Leakage/Ventilation					
Air Tightness Type:	Energy Star Attached (3.0 ACH)				
Custom BDT Data:	ELA @ 10 Pa.				891.7 cm^2
	3.00				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):	**0.282**				
Cooling Air Leakage Rate (ACH/H):	**0.088**				

TYPE: HORIZON 2
LO# 81375

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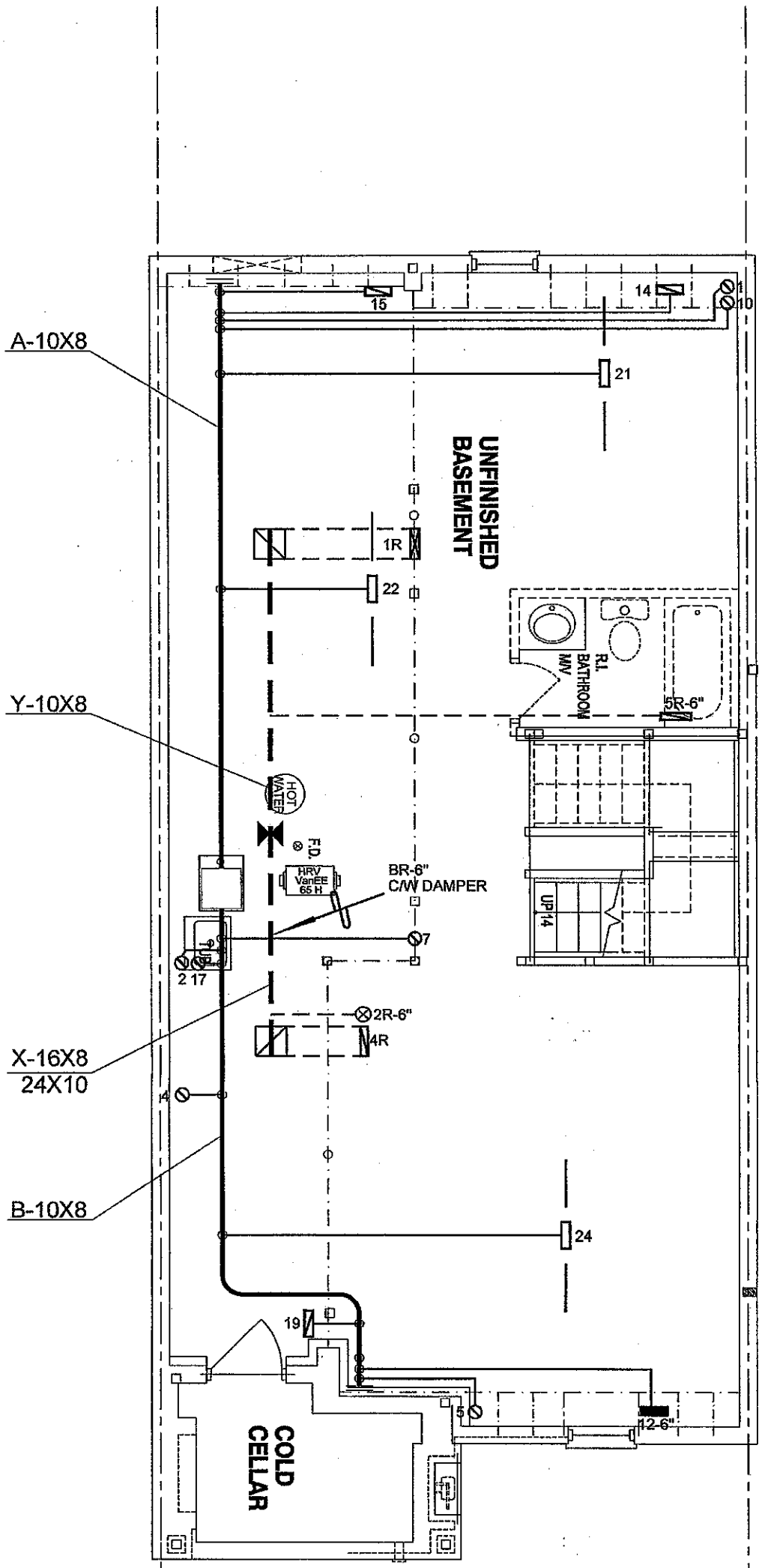


RECEIVED
JUN 05 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

APPROVED
For constuction as per the
Ontario Building Code
Town of Caledon Building Department
Initial (SA)
Date June 13, 2019
File # CMOD-Horizon 2

(ELEVATIONS 1&2)

ELEV-1 & 2

THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

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, BCIN# 19669
HVAC DESIGNS LTD.

APPLICANT COPY

ENERGY STAR
CSA-F280-12

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR 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

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENPARK HOMES

Project Name
LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO

HORIZON 2 2008 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.

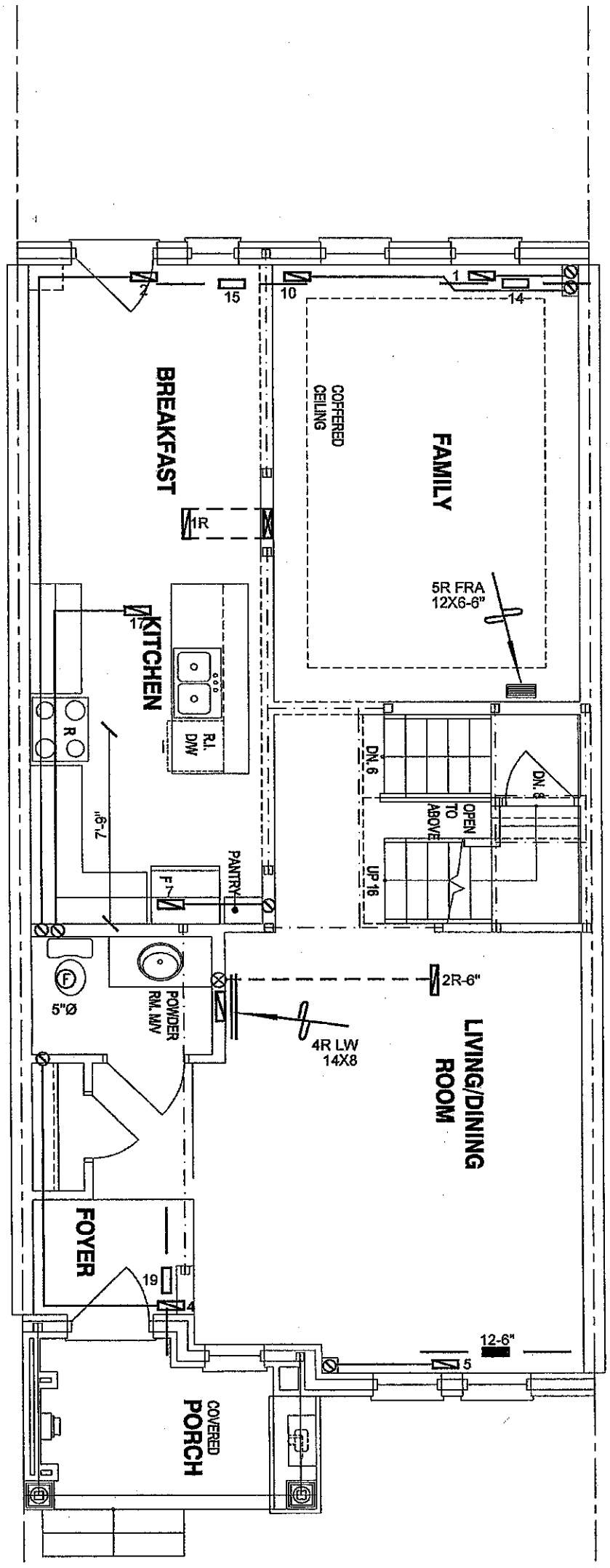
HEAT LOSS 22392 BTU/H	
UNIT DATA	
MAKE	GOODMAN
MODEL	GMEC960302BNA
INPUT	30 MBTU/H
OUTPUT	28 MBTU/H
COOLING	1.5 TONS
FAN SPEED	557 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	7	2	3
1ST FLOOR	4	2	2
BASEMENT	3	1	0

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

Sheet Title
BASEMENT HEATING LAYOUT

Date FEB/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81375



ELEV-1 & 2

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

ENERGY STAR
CSA-F280-12

HVAC LEGEND

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REVISIONS

Client
GREENPARK HOMES

Project Name
LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO

HORIZON 2 2008 sqft

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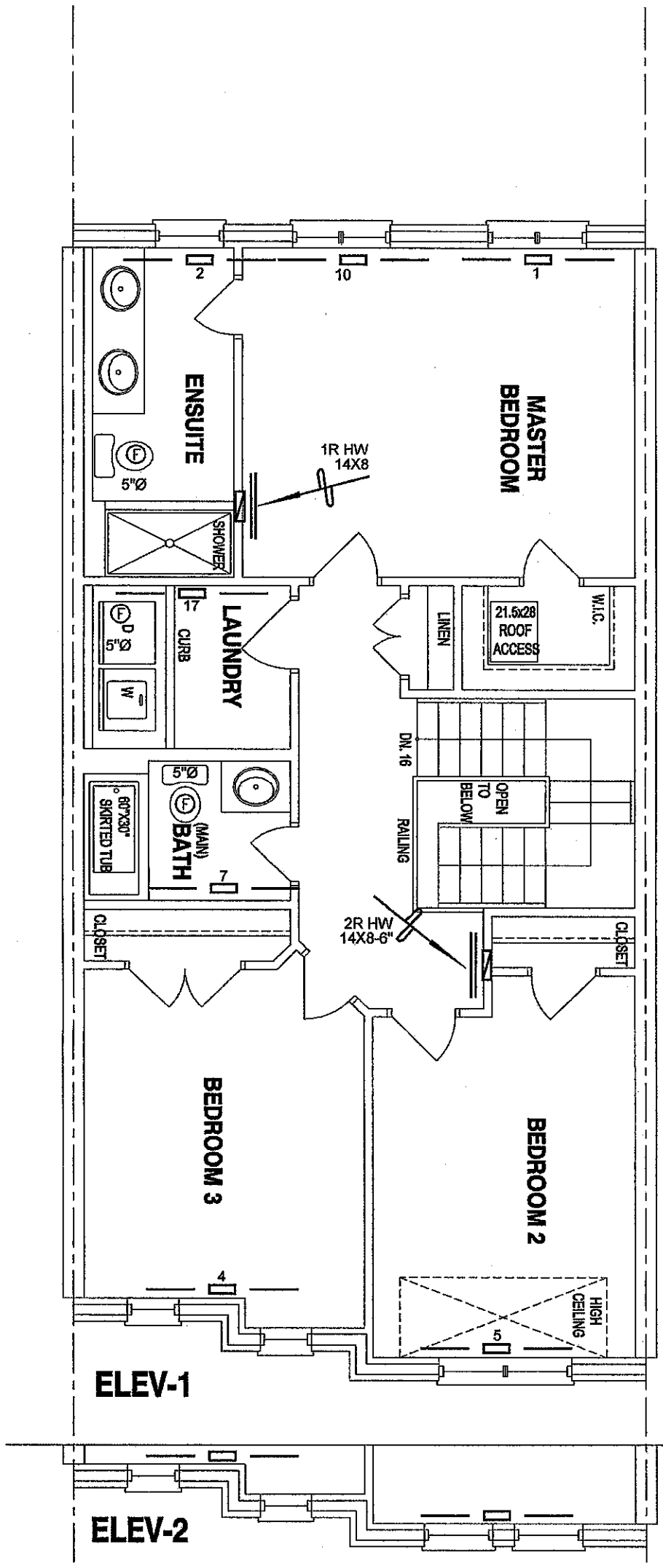
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date FEB/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81375



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

ENERGY STAR
CSA-F280-12

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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1.		

REVISIONS

Client
GREENPARK HOMES

Project Name
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CALEDON, ONTARIO

HORIZON 2 2008 sqft

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THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING COD

Sheet Title
SECOND FLOOR HEATING LAYOUT

Date FEB/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81375