

SITE NAME: LAMBERT'S LANE PH.2

LOT 51

DATE: Aug-19

WINTER NATURAL AIR CHANGE RATE 0.258

HEAT LOSS AT °F. 74

CSA-P280-12

BUILDER: GREENPARK HOMES

TYPE: WOODCROFT2

GFA: 2788

LO# 83818

SUMMER NATURAL AIR CHANGE RATE 0.084

HEAT GAIN AT °F. 11

ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-3	WIC-3	LAUN	ENS-2
			39	27	7	28	27	11	7	12	0	9
			8	8	8	8	8	8	8	8	8	8
GRS.WALL AREA	LOSS	GAIN	316	218	57	227	218	89	57	97	0	73
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	18.6	15.1	11	204	167	0	0	0	0	0	0	0
EAST	18.6	40.7	0	0	0	0	0	0	0	0	0	0
SOUTH	18.6	24.1	0	0	0	7	130	168	0	0	0	0
WEST	18.6	40.7	39	723	1538	16	297	651	0	0	0	0
SKYL.T.	31.2	99.9	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
NET EXPOSED WALL	3.5	0.5	286	934	138	195	687	102	57	199	30	181
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	380	476	212	176	221	98	112	140	62	162
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	25	67	30	136
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			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
SUBTOTAL HT LOSS			2337		1334		340		2224		1488	
SUB TOTAL HT GAIN				2105		1020		92		2156		1540
LEVEL FACTOR / MULTIPLIER			0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23
AIR CHANGE HEAT LOSS			636		306		78		510		341	
AIR CHANGE HEAT GAIN				87		42		4		89		64
DUCT LOSS			0		0		0		273		0	
DUCT GAIN			0		0		0		0		0	
HEAT GAIN PEOPLE	240		2	480	0	0	0	0	1	240	0	0
HEAT GAIN APPLIANCES/LIGHTS				467	0	0	0	0		467	0	0
TOTAL HT LOSS BTU/H			2873		1640		417		3007		1829	
TOTAL HT GAIN x 1.3 BTU/H				4080		1381		125		4222		3004

RECEIVED
AUG 28 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO.

ROOM USE	EXP. WALL	CLG. HT.	FAM	LIV/DIN	KIT	OFF	WIR	FOY	MUD	WOB	BAS
			35	22	36	23	6	21	29	79	93
			10	10	10	10	10	10	12	9	9
GRS.WALL AREA	LOSS	GAIN	347	218	357	228	60	208	348	672	512
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
NORTH	18.6	15.1	0	0	0	0	0	0	0	0	0
EAST	18.6	40.7	0	0	0	0	0	0	0	0	0
SOUTH	18.6	24.1	0	0	0	0	0	0	0	0	0
WEST	18.6	40.7	38	705	1647	0	0	0	0	0	0
SKYL.T.	31.2	99.9	0	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	309	1087	161	199	701	104	279	982	146
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1814		1053		2428		1404		
SUB TOTAL HT GAIN				1718		561		3188		1727	
LEVEL FACTOR / MULTIPLIER			0.30	0.35	0.30	0.35	0.30	0.35	0.30	0.35	0.30
AIR CHANGE HEAT LOSS			638		370		854		484		
AIR CHANGE HEAT GAIN				71		23		132		72	
DUCT LOSS			0		0		0		0		
DUCT GAIN			0		0		0		0		
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				467	467	467	467	467	467	467	467
TOTAL HT LOSS BTU/H			2452		1424		3283		1098		
TOTAL HT GAIN x 1.3 BTU/H				2933		1356		4923		2945	

TOTAL HEAT GAIN BTU/H: 35774 TONS: 2.98 LOSS DUE TO VENTILATION LOAD BTU/H: 1553 STRUCTURAL HEAT LOSS: 42266 TOTAL COMBINED HEAT LOSS BTU/H: 43659

Michael O'Rourke

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

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

LOT 51
TYPE: WOODCROFT 2

DATE: Aug-19

GFA: 2788 LO# 83516

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 42,266 TOTAL HEAT GAIN 35,535
AIR FLOW RATE CFM 26.76 AIR FLOW RATE CFM 31.83

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 0.16
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

r/a pressure 0.17
r/a grille press. loss 0.02
adjusted pressure r/a 0.15

#GOODMAN
GMCE960603BNA 60
FAN SPEED LOW
MEDIUM
MEDIUM HIGH
HIGH 1131

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600
DESIGN CFM = 1131
CFM @ 5" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	8	4
R/A	0	0	5	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-3	WIC-3	LAUN	MBR	ENS-2	FAM	LIV/DIN	KIT	KIT	OFF	W/R	FOY	MUD	BAS	BAS	BAS	BAS	
RM LOSS MBH	1.44	1.64	0.42	1.50	0.91	0.97	0.59	0.75	0.55	1.44	0.82	2.45	1.42	1.64	1.64	1.90	0.45	2.23	2.28	3.70	3.70	3.70	3.70	
CFM PER RUN HEAT	38	44	11	40	24	26	16	20	15	38	22	66	38	44	44	51	12	60	61	99	99	99	99	
RM GAIN MBH	2.04	1.38	0.12	2.11	1.50	1.61	0.39	0.77	0.82	2.04	0.35	2.93	1.37	2.46	2.46	2.94	0.30	0.64	0.96	1.18	1.18	1.18	1.18	
CFM PER RUN COOLING	65	44	4	67	48	51	12	25	26	65	11	93	43	78	78	94	9	20	31	38	38	38	38	
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16	
ACTUAL DUCT LGH.	50	47	46	35	31	27	17	32	38	68	46	49	10	34	44	19	13	26	49	52	58	58	58	
EQUIVALENT LENGTH	200	140	170	155	160	120	170	130	125	170	135	160	120	120	120	160	120	140	130	120	120	120	130	
TOTAL EFFECTIVE LENGTH	250	187	216	190	191	147	187	162	163	238	181	209	130	154	164	179	133	166	179	172	178	150	150	
ADJUSTED PRESSURE	0.07	0.09	0.08	0.08	0.09	0.12	0.09	0.11	0.11	0.07	0.1	0.08	0.13	0.11	0.1	0.09	0.13	0.1	0.1	0.09	0.09	0.11	0.11	
ROUND DUCT SIZE	6	4	4	5	5	6	4	4	4	6	4	6	5	8	6	6	4	5	5	6	6	6	6	
HEATING VELOCITY (ft/min)	194	505	126	294	176	133	184	229	172	194	252	337	279	224	224	260	138	441	448	505	505	505	505	
COOLING VELOCITY (ft/min)	331	505	46	492	352	260	138	287	298	331	126	474	316	398	398	479	103	147	228	194	194	194	194	
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	
TRUNK	A	F	F	D	F	F	F	E	D	B	D	A	F	A	A	F	F	D	B	A	B	F	F	

RUN #	25	26	27
ROOM NAME	BAS	BED-2	BED-3
RM LOSS MBH	3.70	1.50	0.91
CFM PER RUN HEAT	99	40	24
RM GAIN MBH	1.18	2.11	1.50
CFM PER RUN COOLING	38	67	48
ADJUSTED PRESSURE	0.16	0.17	0.17
ACTUAL DUCT LGH.	20	43	18
EQUIVALENT LENGTH	140	145	165
TOTAL EFFECTIVE LENGTH	160	188	183
ADJUSTED PRESSURE	0.1	0.09	0.09
ROUND DUCT SIZE	6	5	5
HEATING VELOCITY (ft/min)	505	294	176
COOLING VELOCITY (ft/min)	194	492	352
OUTLET GRILL SIZE	4X10	3X10	3X10
TRUNK	D	D	E

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	291	0.07	9.1	10	8
TRUNK B	198	0.07	7.9	8	8
TRUNK C	489	0.07	11.1	14	8
TRUNK D	276	0.09	8.4	8	8
TRUNK E	809	0.07	13.4	20	8
TRUNK F	321	0.08	9.2	10	8

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	8
TRUNK H	0	0.00	0	0	8
TRUNK I	0	0.00	0	0	8
TRUNK J	0	0.00	0	0	8
TRUNK K	0	0.00	0	0	8
TRUNK L	0	0.00	0	0	8

RETURN AIR #	1	2	3	4	5	6	7	8													BR			
AIR VOLUME	85	115	85	95	75	85	200	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191
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	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	58	52	35	44	35	42	21	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	195	240	195	180	235	200	145	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	253	292	230	224	270	242	166	166	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.06	0.05	0.06	0.07	0.05	0.06	0.09	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	6	7	6	6	6	6	7.5	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.1
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
INLET GRILL SIZE	14	14	14	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	8
TRUNK P	0	0.05	0	0	8
TRUNK Q	0	0.05	0	0	8
TRUNK R	0	0.05	0	0	8
TRUNK S	0	0.05	0	0	8
TRUNK T	0	0.05	0	0	8
TRUNK U	0	0.05	0	0	8
TRUNK V	0	0.05	0	0	8
TRUNK W	0	0.05	0	0	8
TRUNK X	1131	0.05	16.5	32	8
TRUNK Y	380	0.05	11	14	8
TRUNK Z	170	0.05	8.1	8	8
DROP	1131	0.05	16.5	24	10

TYPE: WOODBROOK 2
 SITE NAME: LAMBERT STATION #12

 LO # 83516
 LOT 51

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	7	@ 10.6 cfm	74.2	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		79.5	cfm	

SUPPLEMENTAL VENTILATION CAPACITY			9.32.3.5.
Total Ventilation Capacity	201.4	cfm	
Less Principal Ventil. Capacity	79.5	cfm	
Required Supplemental Capacity	121.9	cfm	

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 65H	Location:	BSMT
79.5	cfm	3.0	sones
			☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 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	
ENS-3	FV-05-11VK1	50	☒	0.3	
ENS-2	FV-05-11VK1	50	☒	0.3	
W/R	FV-05-11VK1	50	☒	0.3	

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
155	cfm high	64 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:	August-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: 18869 *Michael O'Rourke* MICHAEL O'ROURKE

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

LO#: 83516

Model: WOODCROFT 2

Builder: GREENPARK HOMES

Date: 08/20/2019

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1241	9	10548.5
First	1241	10	12310.72
Second	1559	8	12612.31
Third	0	9	0
Fourth	0	9	0
Total:			35,471.5 ft³
Total:			1004.4 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.258
SUMMER NATURAL AIR CHANGE RATE	0.084

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

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

0.258 x 279.01 x 41 °C x 1.2 = 3562 W

= 12155 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

= 0.084 x 279.01 x 6 °C x 1.2 = 172 W

= 586 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

80 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

80 CFM x 11 °F x 1.08 x 0.25 = 236 Btu/h

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

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \left(\frac{HL_{agcr} + HL_{bgcr}}{HL_{agclevel} + HL_{bgclevel}} \right)$$

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	12,155	8,739	0.695
2	0.3		10,365	0.352
3	0.2		10,610	0.229
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

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: WOODCROFT 2	LOT 51	BUILDER: GREENPARK HOMES
SFQT: 2788	LO# 83516	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:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	35471.5	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:	5.5 ft
LENGTH: 47.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	93.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	79.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	THE ONTARIO BUILDING CODE EXCEED THE PROVISIONS OF THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR BE LOWER	Compliance Package ENERGYSTAR	
		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		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	-

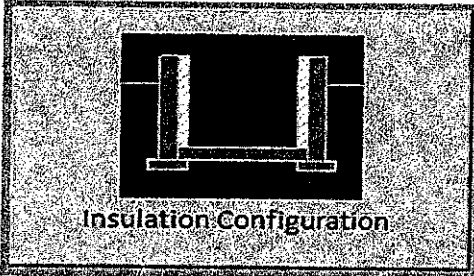
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

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):	9.1	 Insulation Configuration
Floor Width (m):	11.9	
Exposed Perimeter (m):	28.3	
Wall Height (m):	2.6	
Depth Below Grade (m):	1.51	
Window Area (m ²):	0.3	
Door Area (m ²):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		796

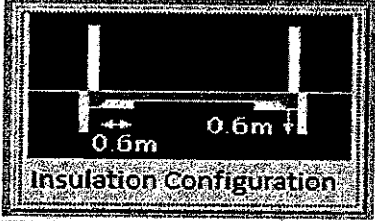
TYPE: WOODCROFT 2
 LO# 83516

LOT 51

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

Residential Slab on Grade 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		
Length (m):	6.1	
Width (m):	11.9	
Exposed Perimeter (m):	24.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):	395	

TYPE: WOODCROFT 2
LO# 83516

LOT 51

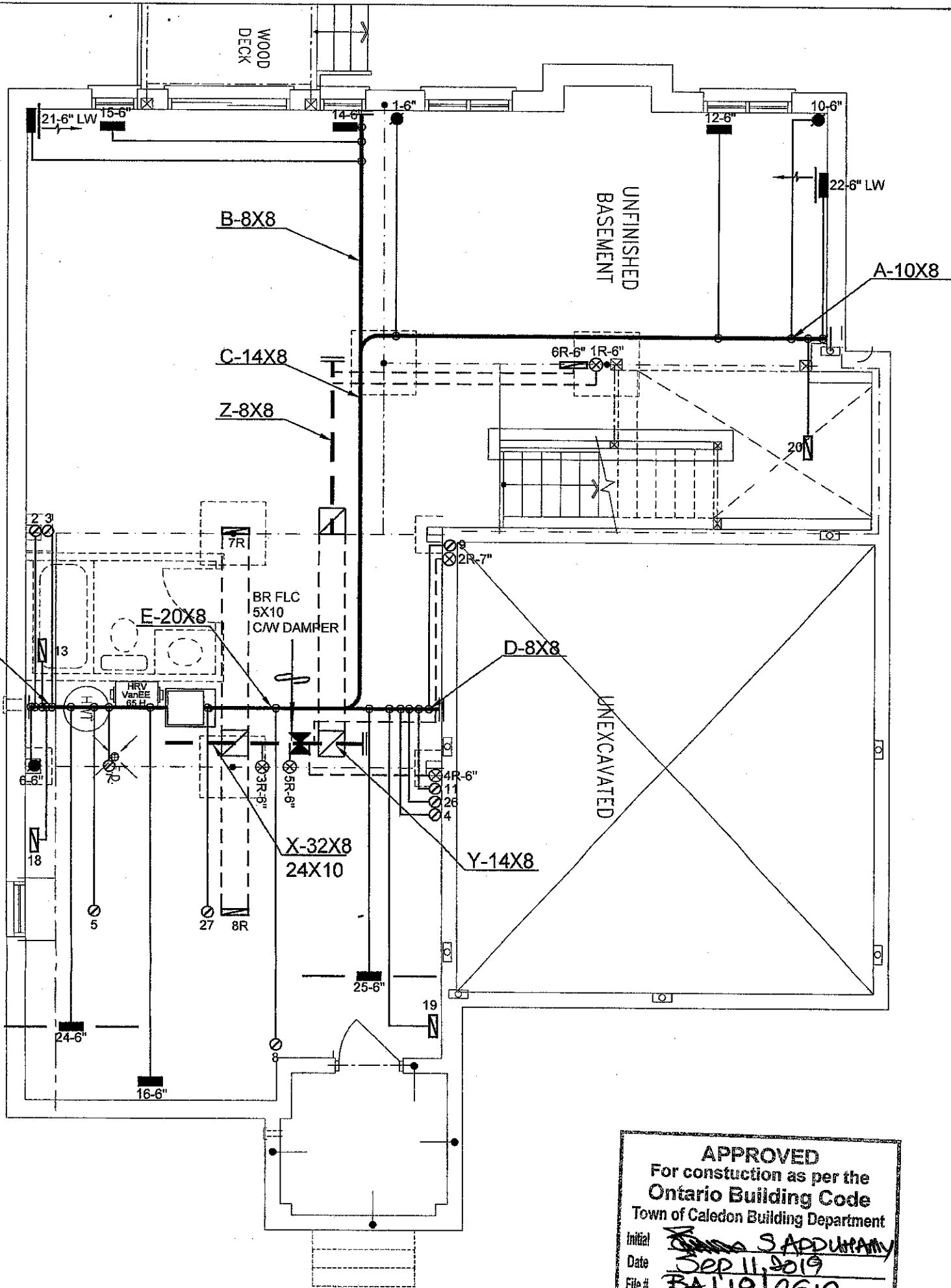
Air Infiltration Residential Load Calculator

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):	8.08			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1004.4			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.		937.6 cm ²	
	2.50		ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply		Total Exhaust	
	37.5		37.5	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.258			
Cooling Air Leakage Rate (ACH/H):	0.084			

TYPE: WOODCROFT 2
LO# 83516

LOT 51



APPROVED
For construction as per the
Ontario Building Code
Town of Caledon Building Department
Initial: *S. Addumany*
Date: *SEP 11, 2019*
File #: *BA/19/0610*

THIS STRUCTURE MUST BE
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THE ONTARIO BUILDING CODE

MINIMUM CEILING HEIGHT SHALL BE 2100 MM
OVER AT LEAST 75% OF BASEMENT
AREA EXCEPT THAT UNDER BEAMS AND
DUCTS THE CLEARANCE IS PERMITTED TO
BE REDUCED 1950 MM

BASEMENT PLAN - ELEV. '3'

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TOWN OF CALEDON
BUILDING SECTION
FILE NO.

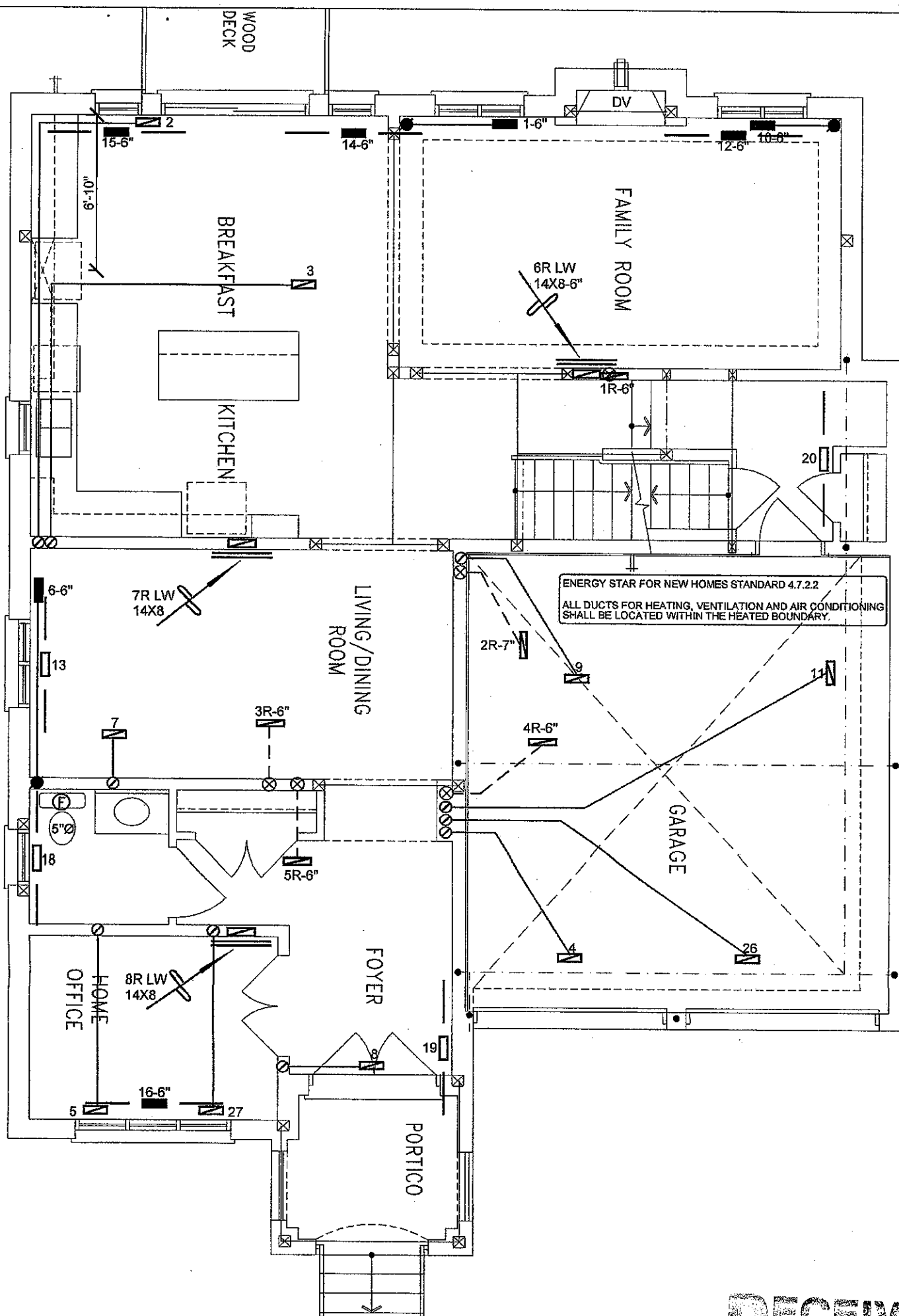
LOT 51
CSA-F280-12
ENERGY STAR

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	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA - FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date

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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 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 43859 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title	
Project Name LAMBERTS LANE HOME CORP PH 2 CALEDON, ONTARIO			MAKE GOODMAN		3RD FLOOR				BASEMENT HEATING LAYOUT	
			MODEL GMEC960603BNA		2ND FLOOR 13 5 5					
			INPUT 60 MBTU/H		1ST FLOOR 8 3 2					
			OUTPUT 57.6 MBTU/H		BASEMENT 4 1 0				Date AUG/2019	
LOT 51 WOODCROFT 2 2788 sqft		COOLING 3.0 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"x7" 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		
										LO# 83516



DUCTS LOCATED IN UNCONDITIONED SPACES SHALL BE SEALED TO A CLASS A SEAL LEVEL IN ACCORDANCE WITH THE SMACNA MANUAL

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TOWN OF CALEDON
BUILDING SECTION
FILE NO.

LOT 51
CSA-F280-12

ENERGY STAR

GROUND FLOOR PLAN - ELEV. '3'

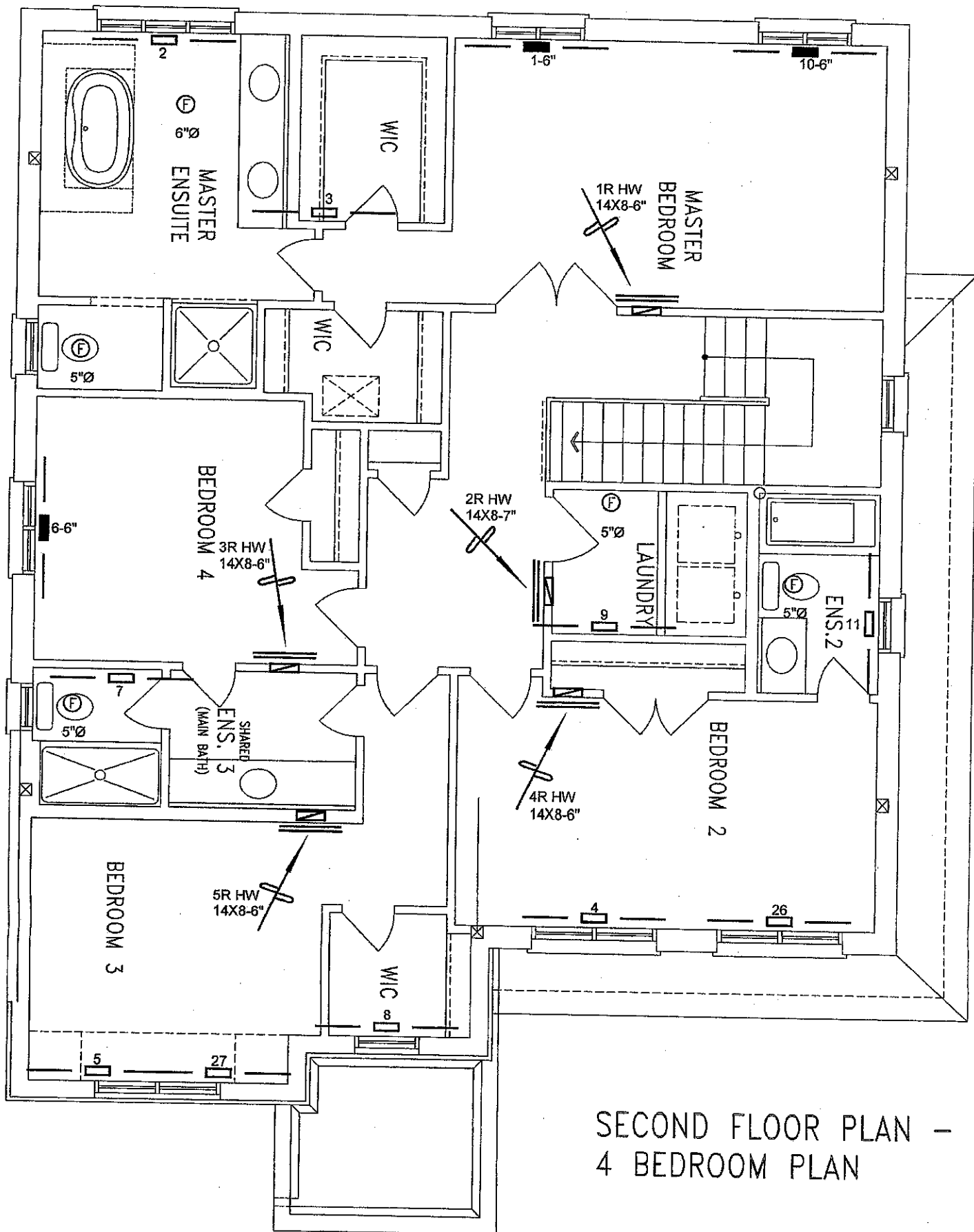
I MICHAEL O'BRIEN HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Brien
MICHAEL O'BRIEN, 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 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		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@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services	THIS STRUCTURE IS NOT TO BE CONSTRUCTED TO EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE	Sheet Title FIRST FLOOR HEATING LAYOUT		
Project Name LAMBERTS LANE HOME CORP PH 2 CALEDON, ONTARIO	LOT 51 WOODCROFT 2 2788 sqft			Date AUG/2019	Scale 3/16" = 1'-0"	
		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#	83516	



SECOND FLOOR PLAN - ELEV. '3'
4 BEDROOM PLAN

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AUG 28 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

LOT 51
CSA-F280-12



ENERGY STAR

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.

HVAC LEGEND

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

REVISIONS

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Client
GREENPARK HOMES
Project Name
**LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO**

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@hvacdsgns.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.

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Sheet Title
**SECOND FLOOR
HEATING
LAYOUT**

Date **AUG/2019**

Scale **3/16" = 1'-0"**

BCIN# 19669

LO# **83516**

LOT 51
WOODCROFT 2 2788 sqft