

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

TYPE: WOODCROFT3

GFA: 2907

DATE: Feb-19
LOW 81241

WINTER NATURAL AIR CHANGE RATE 0.248
SUMMER NATURAL AIR CHANGE RATE 0.061

HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 11

CSA-F280-12
ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN	ENS-3
FACTORS	33	9	29	9	7	14	30	31	6	7	5
GRS.WALL AREA	LOSS	GAIN	297	281	63	128	270	279	84	63	46
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	7	130	106
SOUTH	18.6	24.1	0	0	0	0	0	0	0	0	0
WEST	18.6	40.7	30	557	1222	14	280	570	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	267	939	139	230	809	120	47	165	25
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	266	333	148	198	248	110	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	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1929		1632		388	1221	2438	2081	677	509	398
SUB TOTAL HT GAIN		1509		1058	107	435	2114	2411	225	295	265
LEVEL FACTOR / MULTIPLIER	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20
AIR CHANGE HEAT LOSS	418		373		89	273	558	475	155	116	81
AIR CHANGE HEAT GAIN		77		54	5	23	108	123	11	15	13
DUCT LOSS	0		0		0	150	300	0	83	0	0
DUCT GAIN		0		0	0	145	319	0	24	0	0
HEAT GAIN PEOPLE	240	2	480	0	0	1	240	1	240	0	0
HEAT GAIN APPLIANCES/LIGHTS			730	0	0	730	730	730	0	730	0
TOTAL HT LOSS BTU/H	2247		2005		477	1850	3296	2557	918	625	489
TOTAL HT GAIN x 1.3 BTU/H	3638		1448		146	2071	4564	4564	338	1353	362

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

ROOM USE	EXP. WALL	CLG. HT.	LIV/DIN	KIT	FAM	FOY	MUD	LOD	BAS
FACTORS	33	10	43	10	36	34	26	47	172
GRS.WALL AREA	LOSS	GAIN	330	430	360	340	286	423	1173
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	LOSS	LOSS	LOSS	LOSS
NORTH	18.6	15.1	0	0	0	0	0	0	0
EAST	18.6	40.7	40	742	1829	0	0	0	0
SOUTH	18.6	24.1	23	427	553	0	0	0	0
WEST	18.6	40.7	0	0	0	0	0	0	0
SKYL.T.	31.2	99.9	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	267	939	139	366	1267	191	322
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	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	2108		2474		1837	1196	1428	1171	7834
SUB TOTAL HT GAIN		2321		2797	1715	177	212	529	458
LEVEL FACTOR / MULTIPLIER	0.30	0.42	0.30	0.42	0.30	0.42	0.30	0.42	0.50
AIR CHANGE HEAT LOSS	894		1049		779	507	806	0	8390
AIR CHANGE HEAT GAIN		116		142	87	9	11		55
DUCT LOSS	0		0		0	0	0	0	0
DUCT GAIN		0		0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			730	730	730	730	730	730	730
TOTAL HT LOSS BTU/H	3001		3523		2616	1703	2034	1171	14324
TOTAL HT GAIN x 1.3 BTU/H	4120		4770		3292	242	1236	818	1517

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FILE NO.

TOTAL HEAT GAIN BTU/H: 34802

TONS: 2.90

LOSS DUE TO VENTILATION LOAD BTU/H: 1693

STRUCTURAL HEAT LOSS: 42634

TOTAL COMBINED HEAT LOSS BTU/H: 44225

Michael O'Rourke

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

TYPE: WOODCROFT 3

DATE: Feb-19

GFA: 2907 LO# 81341

 HEATING CFM 1131 COOLING CFM 1131
 TOTAL HEAT LOSS 42,634 TOTAL HEAT GAIN 34,566
 AIR FLOW RATE CFM 26.53 AIR FLOW RATE CFM 32.72

 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 r/a pressure 0.17
 max s/a diff press. loss 0.03 r/a grille press. loss 0.02
 min adjusted pressure s/a 0.15 adjusted pressure r/a 0.15

 #GOODMAN
 GMEC980603BNA 60
 FAN SPEED LOW
 MEDLOW
 MEDIUM
 MEDIUM HIGH
 HIGH 1131

 AFUE = 98 %
 INPUT (BTU/H) = 60,000
 OUTPUT (BTU/H) = 57,600

 DESIGN CFM = 1131
 CFM @ 6" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	7	4
R/A	0	0	5	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	3	4	5	6	7	8	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	BATH	LAUN	MBR	ENS-3	LIV/DIN	LIV/DIN	KIT	KIT	FAM	BED-3	BED-4	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.12	2.01	0.48	1.65	1.65	1.28	0.92	0.62	1.12	0.49	1.50	1.50	1.76	1.76	2.62	1.65	1.28	1.70	2.03	3.87	3.87	3.87	3.87
CFM PER RUN HEAT	30	53	13	44	44	34	24	17	30	13	40	40	47	47	89	44	34	45	54	103	103	103	103
RM GAIN MBH	1.82	1.44	0.15	2.07	2.28	2.28	0.34	1.35	1.82	0.36	2.06	2.06	2.38	2.38	3.29	2.28	2.28	0.24	1.24	0.61	0.61	0.61	0.61
CFM PER RUN COOLING	59	47	5	68	75	75	11	44	59	12	67	67	78	78	108	75	75	8	41	20	20	20	20
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	0.17	0.15	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	83	67	24	71	47	41	55	16	52	22	7	21	31	39	54	58	38	33	42	29	49	12	10
EQUIVALENT LENGTH	160	150	170	140	160	155	125	205	145	215	120	120	130	150	110	160	130	170	120	140	130	130	110
TOTAL EFFECTIVE LENGTH	223	217	194	211	207	196	180	221	197	237	127	141	161	189	164	216	168	203	182	169	179	142	120
ADJUSTED PRESSURE	0.08	0.08	0.09	0.08	0.08	0.09	0.1	0.08	0.09	0.07	0.14	0.12	0.11	0.09	0.09	0.08	0.1	0.08	0.11	0.1	0.09	0.11	0.14
ROUND DUCT SIZE	5	5	4	6	6	5	4	5	5	4	5	5	5	5	6	6	5	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	220	389	149	224	224	250	275	125	220	149	294	294	345	345	352	224	250	330	396	525	525	525	525
COOLING VELOCITY (ft/min)	433	345	57	347	382	551	126	323	433	138	492	492	573	573	551	382	551	59	301	102	102	102	102
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	B	A	B	D	C	C	D	B	B	B	D	C	B	B	A	C	C	C	A	B	A	D	D

 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	279	0.08	8.7	10	x 8 502
TRUNK B	579	0.07	11.8	16	x 8 651
TRUNK C	241	0.08	8.2	8	x 8 542
TRUNK D	555	0.08	11.2	14	x 8 714
TRUNK E	0	0.00	0	0	x 8 0
TRUNK F	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	0.05	0	0	x 8 0
TRUNK P	0	0.05	0	0	x 8 0
TRUNK Q	0	0.05	0	0	x 8 0
TRUNK R	0	0.05	0	0	x 8 0
TRUNK S	0	0.05	0	0	x 8 0
TRUNK T	0	0.05	0	0	x 8 0
TRUNK U	0	0.05	0	0	x 8 0
TRUNK V	0	0.05	0	0	x 8 0
TRUNK W	0	0.05	0	0	x 8 0
TRUNK X	1131	0.05	16.5	32	x 8 636
TRUNK Y	210	0.05	8.8	10	x 8 378
TRUNK Z	0	0.05	0	0	x 8 0
DROP	1131	0.05	16.5	24	x 10 679

RETURN AIR

	0	2	3	4	5	6	7																BR
AIR VOLUME	75	175	85	95	85	135	300	0	0	0	0	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	0.15	0.15	0.15	0.15	0.15	0.15	181
ACTUAL DUCT LGH.	55	43	62	39	56	40	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
EQUIVALENT LENGTH	215	180	185	170	180	190	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
TOTAL EFFECTIVE LH	270	223	247	209	236	230	194	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	135
ADJUSTED PRESSURE	0.05	0.07	0.06	0.07	0.06	0.06	0.08	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	149
ROUND DUCT SIZE	6	7.5	6	6	6	7.1	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	X	X	X	X	X	X	X	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	30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TYPE: WOODCROFT 3
SITE NAME: LAMBERTS LANE PH.2

LO # 81341

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	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.	TOTAL		190.8	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	190.8	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	111.3	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANE 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
BATH	FV-05-11VK1	50	✓	0.3
ENS-3	FV-05-11VK1	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANE 65H

165 cfm high 64 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

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
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Volume Calculation			Date: 2019-02-04																																																									
House Volume <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>1257</td><td>9</td><td>11313</td></tr> <tr><td>First</td><td>1257</td><td>10</td><td>12570</td></tr> <tr><td>Second</td><td>1658</td><td>9</td><td>14922</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>38,805.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>1098.8 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1257	9	11313	First	1257	10	12570	Second	1658	9	14922	Third	0	9	0	Fourth	0	9	0	Total:			38,805.0 ft³	Total:			1098.8 m³	Air Change & Delta T Data <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>WINTER NATURAL AIR CHANGE RATE</td> <td>0.248</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.081</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5">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>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.248	SUMMER NATURAL AIR CHANGE RATE	0.081	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
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5.2.3.1 Heat Loss due to Air Leakage $HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.248 x 305.23 x 41 °C x 1.2 = 3746 W = 12780 Btu/h			6.2.6 Sensible Gain due to Air Leakage $HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.081 x 305.23 x 6 °C x 1.2 = 181 W = 616 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)																																																												
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve}) \}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{chvel})</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">12,780</td><td>9,105</td><td>0.702</td></tr> <tr><td>2</td><td>0.3</td><td>9,043</td><td>0.424</td></tr> <tr><td>3</td><td>0.2</td><td>11,172</td><td>0.229</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>					Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{chvel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	12,780	9,105	0.702	2	0.3	9,043	0.424	3	0.2	11,172	0.229	4	0	0	0.000	5	0	0	0.000																														
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1	0.5	12,780	9,105	0.702																																																								
2	0.3		9,043	0.424																																																								
3	0.2		11,172	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																																																												

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TOWN OF CALEDON
BUILDING SECTION
FILE NO. _____

THIS STRUCTURE MUST BE
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THE ONTARIO BUILDING CODE

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** WOODCROFT 3**SFQT:** 2907**LO#** 81341**BUILDER:** GREENPARK HOMES**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):	38805.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 47.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	172.0 ft

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2012 OBC - COMPLIANCE PACKAGE

Component	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	-

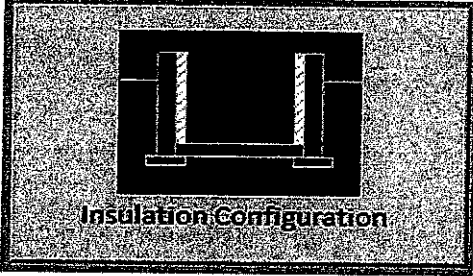
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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JUN 10 2019*Michael O'Rourke*TOWN OF CALEDON
BUILDING SECTION
FILE NO _____

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):	14.3	 Insulation Configuration
Floor Width (m):	11.9	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.0	
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):	1745	

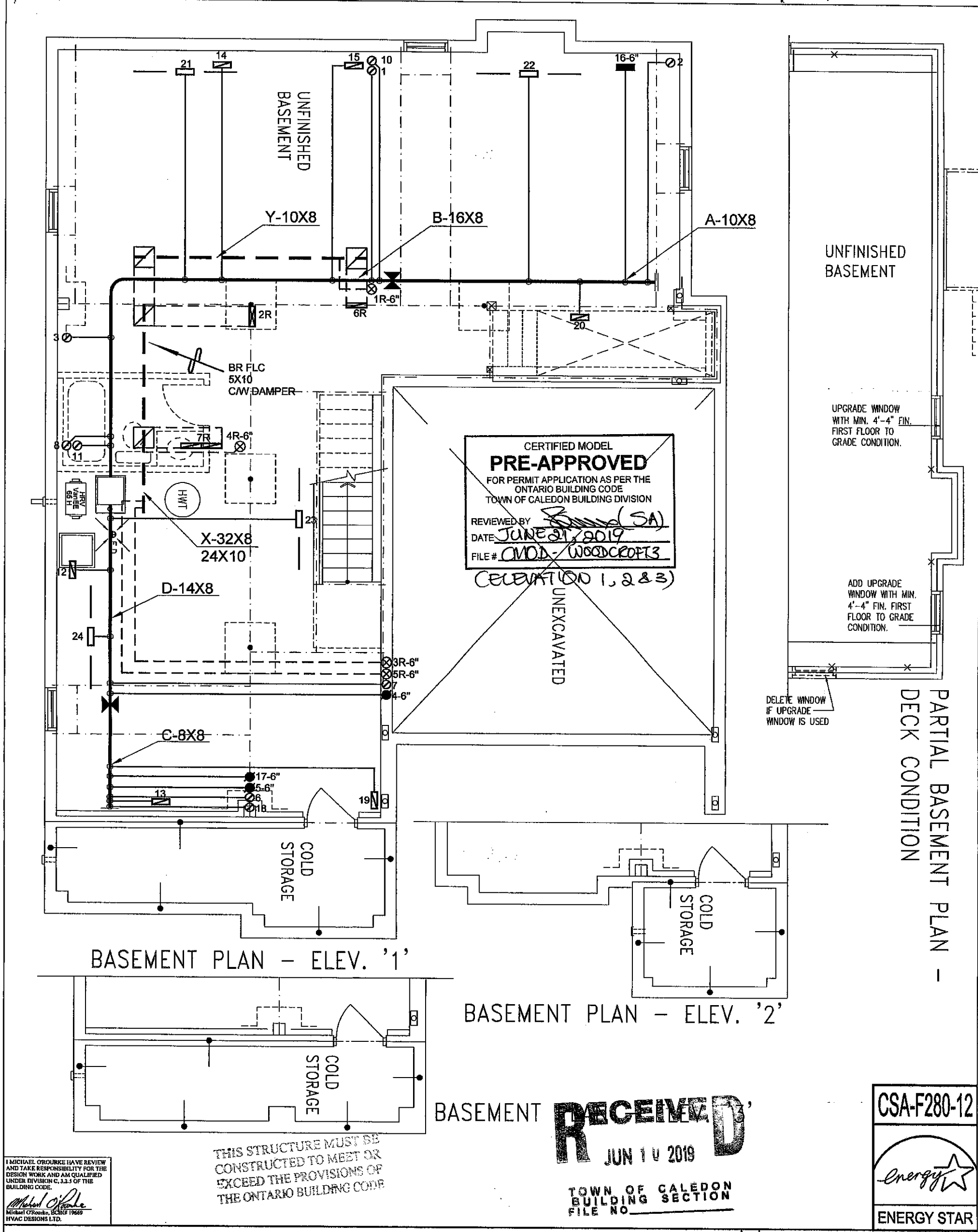
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THE ONTARIO BUILDING CODETYPE: WOODCROFT 3
LO# 81341**RECEIVED**
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TOWN OF CALESON
BUILDING SECTION
FILE NO. _____

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):	7.62		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1098.8		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa. 2.50	1025.8 cm ² ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply 37.5	Total Exhaust 37.5	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.248		
Cooling Air Leakage Rate (ACH/H):	0.081		

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THE ONTARIO BUILDING CODETYPE: WOODCROFT 3
LO# 81341**RECEIVED**
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TOWN OF CALEDON
BUILDING SECTION
FILE NO



HVAC LEGEND								REVISIONS		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Description	Date
	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			

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Client
GREENPARK HOMES

Project Name
LAMBERTS LANE HOME CORP PH2 CALEDON, ONTARIO

WOODCROFT 3 2907 sqft

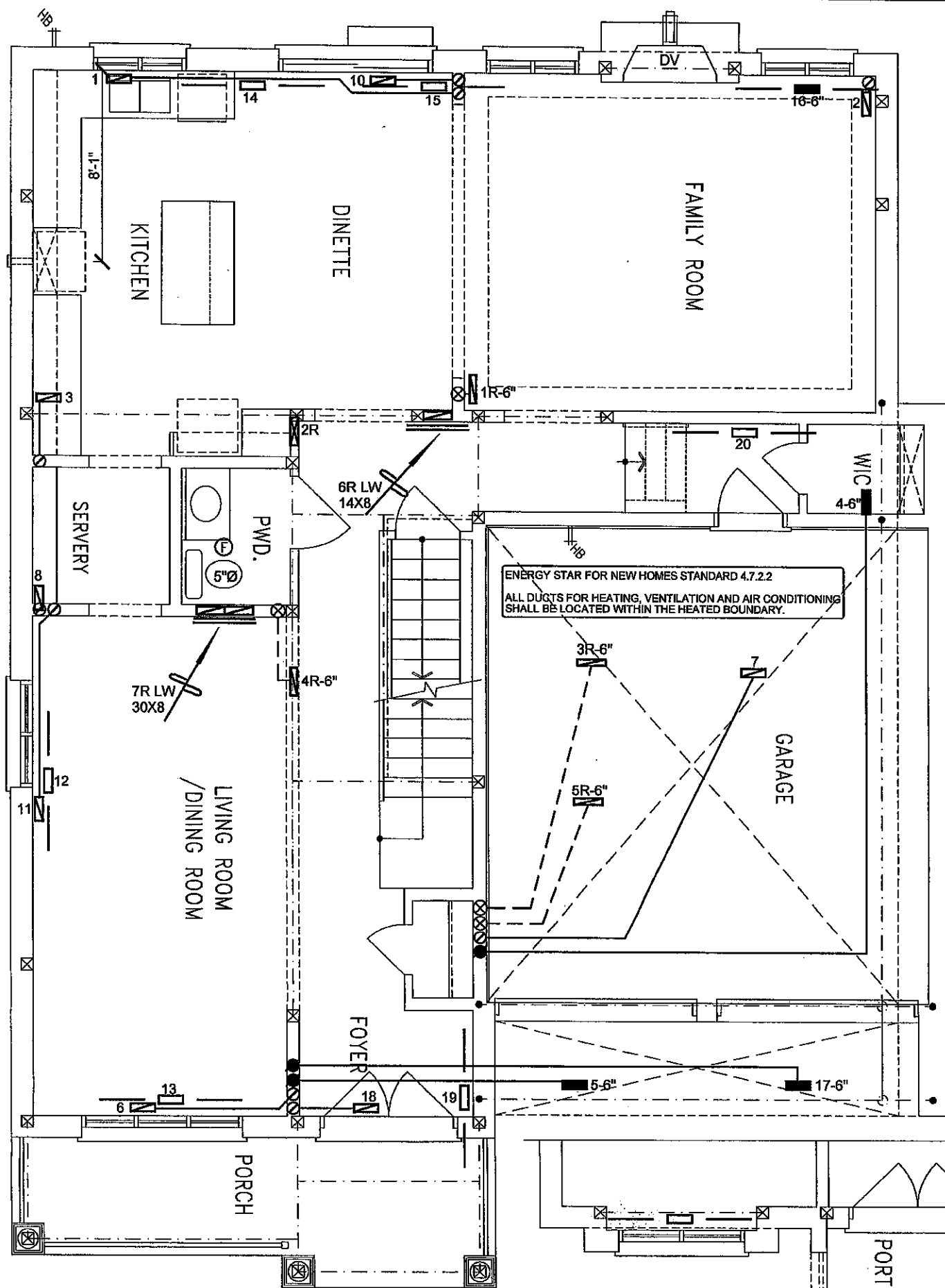
HVACDESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services
Installation to comply with the latest Ontario Building Code. All supply branch 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 44226 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE GOODMAN	2ND FLOOR	12	5	3
MODEL GMEC960603BNA	1ST FLOOR	7	2	2
INPUT 60 MBTU/H	BASEMENT	4	1	0
OUTPUT 57.6 MBTU/H	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			
COOLING 3.0 TONS				
FAN SPEED 1131 cfm @ 0.8" w.c.				

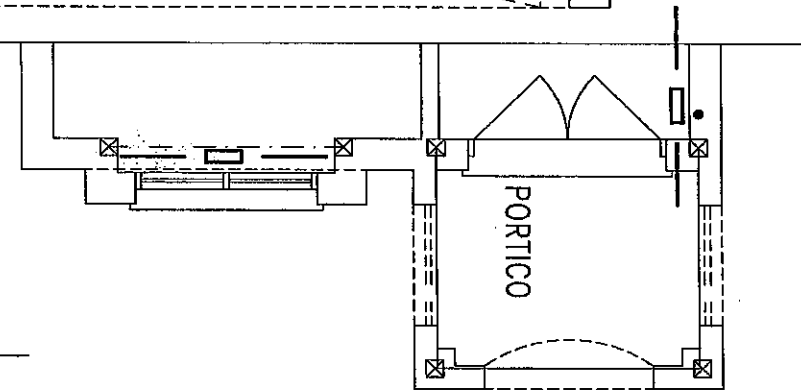
Sheet Title		BASEMENT HEATING LAYOUT	
Date		FEB/2019	
Scale		3/16" = 1'-0"	
BCIN# 19669		LO# 81341	

APPLICANT COPY

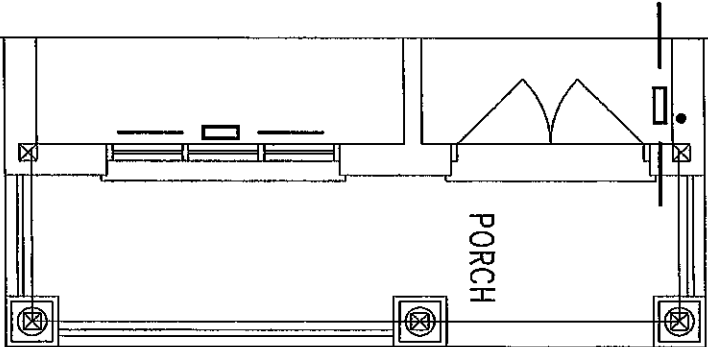
TOWN COPY



GROUND FLOOR PLAN - ELEV. '1'



GROUND FLOOR PLAN - ELEV. '2'

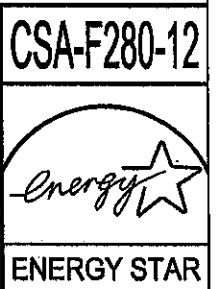


GROUND FLOOR PLAN - ELEV. '3'

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, BCIN# 19669
HVAC DESIGNS LTD.

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

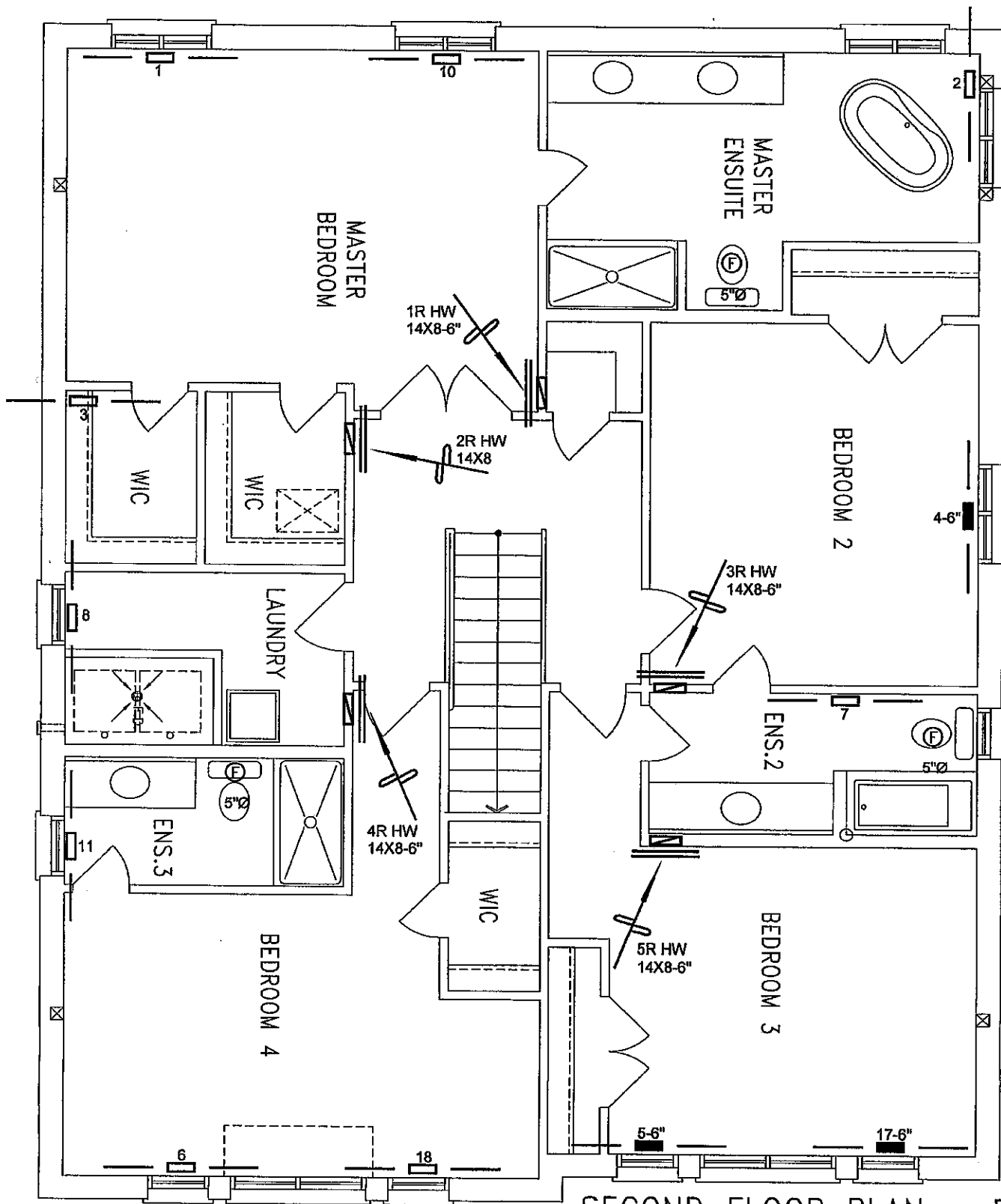
DUCTS LOCATED IN UNCONDITIONED SPACES SHALL BE SEALED TO A CLASS A SEAL LEVEL IN ACCORDANCE WITH THE SMACNA MANUAL



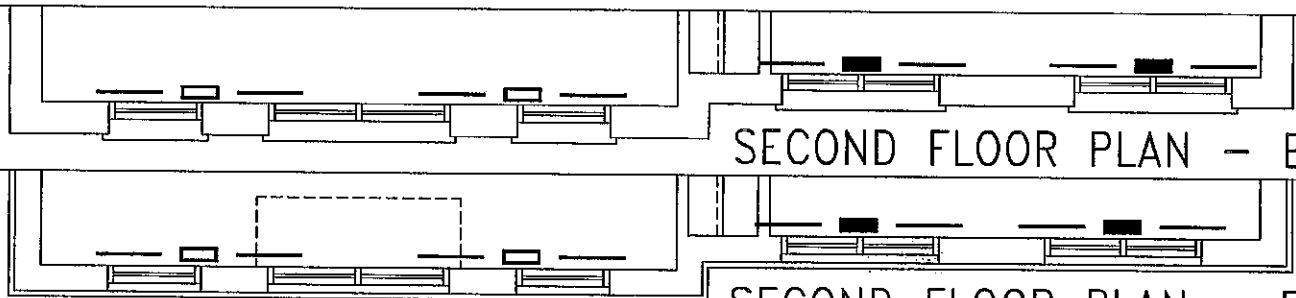
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	Date	
							REVISIONS		

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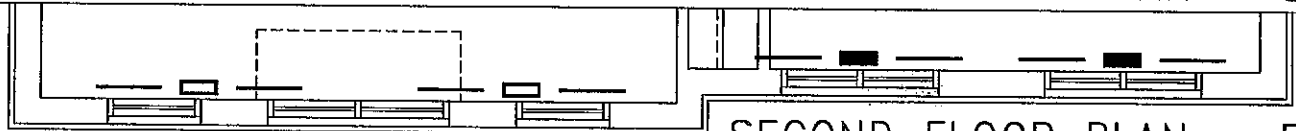
Client GREENPARK HOMES		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	RECEIVED JUN 10 2019 TOWN OF CALEDON BUILDING SECTION FILE NO. _____	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name LAMBERTS LANE HOME CORP PH2 CALEDON, ONTARIO				Date FEB/2019	Scale 3/16" = 1'-0"
WOODCROFT 3 2907 sqft		BCIN# 19669			
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.		LO#		81341	



SECOND FLOOR PLAN - ELEV. '1'



SECOND FLOOR PLAN - ELEV. '2'



SECOND FLOOR PLAN - ELEV. '3'

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.

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CSA-F280-12



ENERGY STAR

HVAC LEGEND								3.		
	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

REVISIONS

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Client
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Project Name
**LAMBERTS LANE HOME CORP PH2
CALEDON, ONTARIO**

WOODCROFT 3 2907 sqft

HVACDESIGNS LTD.

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Sheet Title
**SECOND FLOOR
HEATING
LAYOUT**

Date
FEB/2019

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BCIN# 19669

LO# **81341**