

SITE NAME: LAMBERT'S LANE PH.2

LOT 62

DATE: Jul-19

WINTER NATURAL AIR CHANGE RATE 0.221

HEAT LOSS AT °F. 74

CSA-F280-12

BUILDER: GREENPARK HOMES

TYPE: PRESTON 3

GFA: 2959

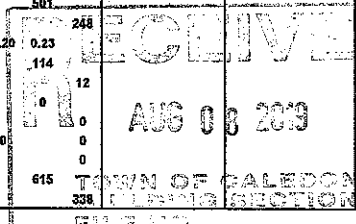
LO# 83241

SUMMER NATURAL AIR CHANGE RATE 0.072

HEAT GAIN AT °F. 11

ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-3	WIC-2	ENS-2		
			32	23	6	14	26	18	7	30	6	11		
			8	8	8	8	8	8	8	8	8	8		
GRS.WALL AREA	LOSS	GAIN	259	188	48	113	210	145	57	242	48	89		
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN		
NORTH	18.6	15.1	0	0	0	0	0	0	7	130	106	0	0	0
EAST	18.6	40.7	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	18.6	24.1	0	0	0	0	0	0	0	0	0	0	7	130
WEST	18.6	40.7	32	594	1303	15	278	611	0	0	0	0	0	0
SKYLT.	31.2	99.9	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
NET EXPOSED WALL	3.5	0.5	227	797	118	171	601	89	48	171	25	97	342	51
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	255	320	142	132	165	74	72	90	40	238	298	133
NO ATTIC EXPOSED CLG	2.7	1.2	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
BASEMENT/CRAWL HEAT LOSS			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
SUBTOTAL HT LOSS			1710		1045	261	937	1972	1023	750	973	298	501	
SUB TOTAL HT GAIN			1563		773	65	426	1609	573	242	162	82	248	
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	0.23	0.20
AIR CHANGE HEAT LOSS			390		238	60	214	450	234	171	222	68	114	
AIR CHANGE HEAT GAIN			78		39	3	21	75	29	12	8	4	12	
DUCT LOSS			0		0	0	0	242	0	92	119	0	0	
DUCT GAIN			0		0	0	0	236	0	25	17	0	0	
HEAT GAIN PEOPLE	240	2	480	0	0	0	1	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			638		0	0	638	638	538	0	0	0	0	0
TOTAL HT LOSS BTU/H			2101		1283	320	1151	2665	1256	1013	1314	367	615	
TOTAL HT GAIN x 1.3 BTU/H			3457		1066	89	1582	3378	1793	363	243	112	338	



ROOM USE	EXP. WALL	CLG. HT.	LBR	LVDN	KIT	FAM	LAUN	WR	FOY	MUD		WUB	BAS
			10	18	36	36	0	9	46	24		19	156
			10	10	10	10	8	10	10	10		9	9
GRS.WALL AREA	LOSS	GAIN	100	180	360	360	0	90	460	240		162	858
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN		LOSS	GAIN
NORTH	18.6	15.1	20	371	303	0	0	0	0	0		3	86
EAST	18.6	40.7	0	0	0	0	0	0	58	1076	2362	0	0
SOUTH	18.6	24.1	0	0	0	0	0	0	0	0	0	0	0
WEST	18.6	40.7	0	0	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
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	80	281	42	140	492	73	285	1602	149	336	1182
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	84	105	47	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	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
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			652		1234	2393	1654	105	462	3566	1267	210	
SUB TOTAL HT GAIN			345		1036	2972	1164	47	259	2799	138	1246	
LEVEL FACTOR / MULTIPLIER	0.30	0.29		0.30	0.29	0.30	0.29	0.20	0.23	0.30	0.29	0.30	0.29
AIR CHANGE HEAT LOSS			191		361	700	483	24	132	1042	370	191	
AIR CHANGE HEAT GAIN			17		52	148	58	2	13	139	9		
DUCT LOSS			0		0	0	0	0	0	0	0	0	
DUCT GAIN			0		0	0	0	0	0	0	0	0	
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			538		538	538	538	538	0	0	0	0	538
TOTAL HT LOSS BTU/H			843		1595	3093	2137	129	584	4609	1637	1246	
TOTAL HT GAIN x 1.3 BTU/H			1169		2112	4755	2288	763	353	3821	256	248	

TOTAL HEAT GAIN BTU/H:

30640

TONS: 2.59

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 41219

TOTAL COMBINED HEAT LOSS BTU/H: 42812

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

LOT 62
TYPE: PRESTON 3

DATE: Jul-19

GFA: 2959 LO#: 83241

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 41,219 TOTAL HEAT GAIN 29,804
AIR FLOW RATE CFM 27.44 AIR FLOW RATE CFM 37.95

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

#GOODMAN

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	4
R/A	0	0	4	3	1

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

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

plenum pressure s/a 0.18
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

FAN SPEED 60
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

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

TEMPERATURE RISE 47 °F

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	BATH	WIC-3	WIC-2	MBR	ENS-2	LIBR	LV/DN	KIT	KIT	FAM	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.05	1.28	0.32	1.15	1.33	1.26	1.01	1.31	0.37	1.05	0.61	0.84	1.60	1.55	1.55	2.14	0.13	0.58	2.30	1.64	3.63	3.63	3.63	3.63
CFM PER RUN HEAT	29	35	9	32	37	34	28	36	10	29	17	23	44	42	42	59	4	16	63	45	100	100	100	100
RM GAIN MBH.	1.73	1.06	0.09	1.59	1.69	1.79	0.36	0.24	0.11	1.73	0.34	1.17	2.11	2.38	2.38	2.29	0.76	0.35	1.91	0.26	0.47	0.47	0.47	0.47
CFM PER RUN COOLING	66	40	3	60	64	68	14	9	4	66	13	44	80	90	90	87	29	13	72	10	18	18	18	18
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	55	54	42	43	38	36	35	38	52	71	41	38	33	41	52	44	45	26	31	26	60	50	23	32
EQUIVALENT LENGTH	150	180	170	160	190	190	190	150	170	190	170	210	190	190	200	190	170	160	140	160	200	150	150	160
TOTAL EFFECTIVE LENGTH	205	234	212	203	228	226	225	188	222	261	211	248	223	231	252	234	215	186	171	186	260	200	173	192
ADJUSTED PRESSURE	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.07	0.08	0.07	0.08	0.07	0.06	0.07	0.08	0.09	0.1	0.09	0.06	0.08	0.09	0.08
ROUND DUCT SIZE	5	5	4	5	5	5	4	4	4	5	4	5	6	6	6	6	4	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	213	257	103	235	272	250	321	413	115	213	195	169	224	214	214	301	46	184	463	516	510	510	510	510
COOLING VELOCITY (ft/min)	485	294	34	441	470	499	161	103	46	485	149	323	408	459	459	444	333	149	529	115	92	92	92	92
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	B	C	E	E	E	E	B	B	C	B	C	A	A	A	B	E	D	C	A	B	C	D

RUN #	26	27
ROOM NAME	BED-3	FOY
RM LOSS MBH.	1.33	2.30
CFM PER RUN HEAT	37	63
RM GAIN MBH.	1.69	1.91
CFM PER RUN COOLING	64	72
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	44	21
EQUIVALENT LENGTH	170	160
TOTAL EFFECTIVE LENGTH	214	181
ADJUSTED PRESSURE	0.08	0.1
ROUND DUCT SIZE	5	5
HEATING VELOCITY (ft/min)	272	463
COOLING VELOCITY (ft/min)	470	529
OUTLET GRILL SIZE	3X10	3X10
TRUNK	E	D

THIS STRUCTURE MUST BE
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THE ONTARIO BUILDING CODE

SUPPLY AIR TRUNK SIZE														RETURN AIR TRUNK SIZE											
TRUNK	STATIC	ROUND	RECT	VELOCITY				TRUNK	STATIC	ROUND	RECT	VELOCITY				TRUNK	STATIC	ROUND	RECT	VELOCITY				TRUNK	STATIC
CFM	PRESS.	DUCT	DUCT	CFM	FT/MIN	INCH	FT/MIN	CFM	PRESS.	DUCT	DUCT	CFM	FT/MIN	INCH	FT/MIN	CFM	PRESS.	DUCT	DUCT	CFM	FT/MIN	INCH	FT/MIN	CFM	PRESS.
TRUNK A	272	0.06	9.3	12	X	8	408	TRUNK G	0	0.00	0	0	X	8	0	TRUNK O	0	0.05	0	0	X	8	0	TRUNK Q	0
TRUNK B	482	0.06	11.5	18	X	8	482	TRUNK H	0	0.00	0	0	X	8	0	TRUNK P	0	0.05	0	0	X	8	0	TRUNK R	0
TRUNK C	720	0.06	13.3	22	X	8	589	TRUNK I	0	0.00	0	0	X	8	0	TRUNK S	0	0.05	0	0	X	8	0	TRUNK T	0
TRUNK D	226	0.08	8	8	X	8	509	TRUNK J	0	0.00	0	0	X	8	0	TRUNK U	0	0.05	0	0	X	8	0	TRUNK V	0
TRUNK E	414	0.08	10.1	12	X	8	621	TRUNK K	0	0.00	0	0	X	8	0	TRUNK W	0	0.05	0	0	X	8	0	TRUNK X	1131
TRUNK F	1134	0.06	15.8	28	X	8	729	TRUNK L	0	0.00	0	0	X	8	0	TRUNK Y	560	0.05	12.7	18	X	8	560	TRUNK Z	0
																DROP	1131	0.05	16.5	24	X	10	679		

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	155	95	125	135	155	170	0	0	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	0.15	0.15
ACTUAL DUCT LGH.	76	45	44	52	40	43	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	245	185	135	175	250	225	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	321	230	179	227	290	268	198	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.06	0.08	0.07	0.05	0.06	0.07	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	14.80	14.80
ROUND DUCT SIZE	7	7.5	5.8	6.7	7.5	7.5	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: PRESTON 3
SITE NAME: LAMBERT'S LANE PH.2

LO # 83241
LOT 62

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 9.32.3.6.

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-2	FV-05-11VK1	50	✓	0.3
WR	FV-05-11VK1	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.
Model: VANE 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: *Michael O'Rourke*
HRAI # 001820
Date: July-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: 16669 *Michael O'Rourke* MICHAEL O'ROURKE

THIS STRUCTURE SHALL
CONSTRUCTED TO MEET OR
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CSA F280-12 Residential Heat Loss and Heat Gain Calculations
Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 83241

Model: PRESTON 3

Builder: GREENPARK HOMES

Date: 23/07/2019

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1314	9	11169
First	1314	10	13140
Second	1606	8	12981.298
Third	0	9	0
Fourth	0	9	0
Total:			37,290.3 ft³
Total:			1055.9 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.221
SUMMER NATURAL AIR CHANGE RATE	0.072

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

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

$$0.221 \times 293.32 \times 41^\circ\text{C} \times 1.2 = 3204 \text{ W}$$

$$= 10931 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

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

$$0.072 \times 293.32 \times 6^\circ\text{C} \times 1.2 = 154 \text{ W}$$

$$= 526 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

$$80 \text{ CFM} \times 74^\circ\text{F} \times 1.08 \times 0.25 = 1593 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

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

$$80 \text{ CFM} \times 11^\circ\text{F} \times 1.08 \times 0.25 = 236 \text{ Btu/h}$$

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

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$$

Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{cleve})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{cleve})
1	0.5	10,931	9,042	0.604
2	0.3		11,218	0.292
3	0.2		9,574	0.228
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 HLairv = 0

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: PRESTON 3	LOT 62	BUILDER: GREENPARK HOMES
SFQT: 2959	LO# 83241	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):	37290.3	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: 60.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	156.0 ft

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	-

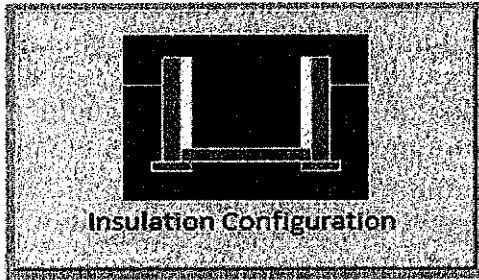
THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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THE ONTARIO BUILDING CODE

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

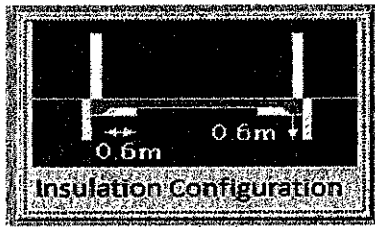
Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.3	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	47.5	
Wall Height (m):	2.6	
Depth Below Grade (m):	1.68	
Window Area (m ²):	1.9	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1566

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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THE ONTARIO BUILDING CODETYPE: PRESTON 3
LO# 83241

LOT 62

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):	1.5	 Insulation Configuration
Width (m):	4.3	
Exposed Perimeter (m):	7.3	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		62

TYPE: PRESTON 3

LO# 83241

LOT 62

THIS STRUCTURE IS NOT
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

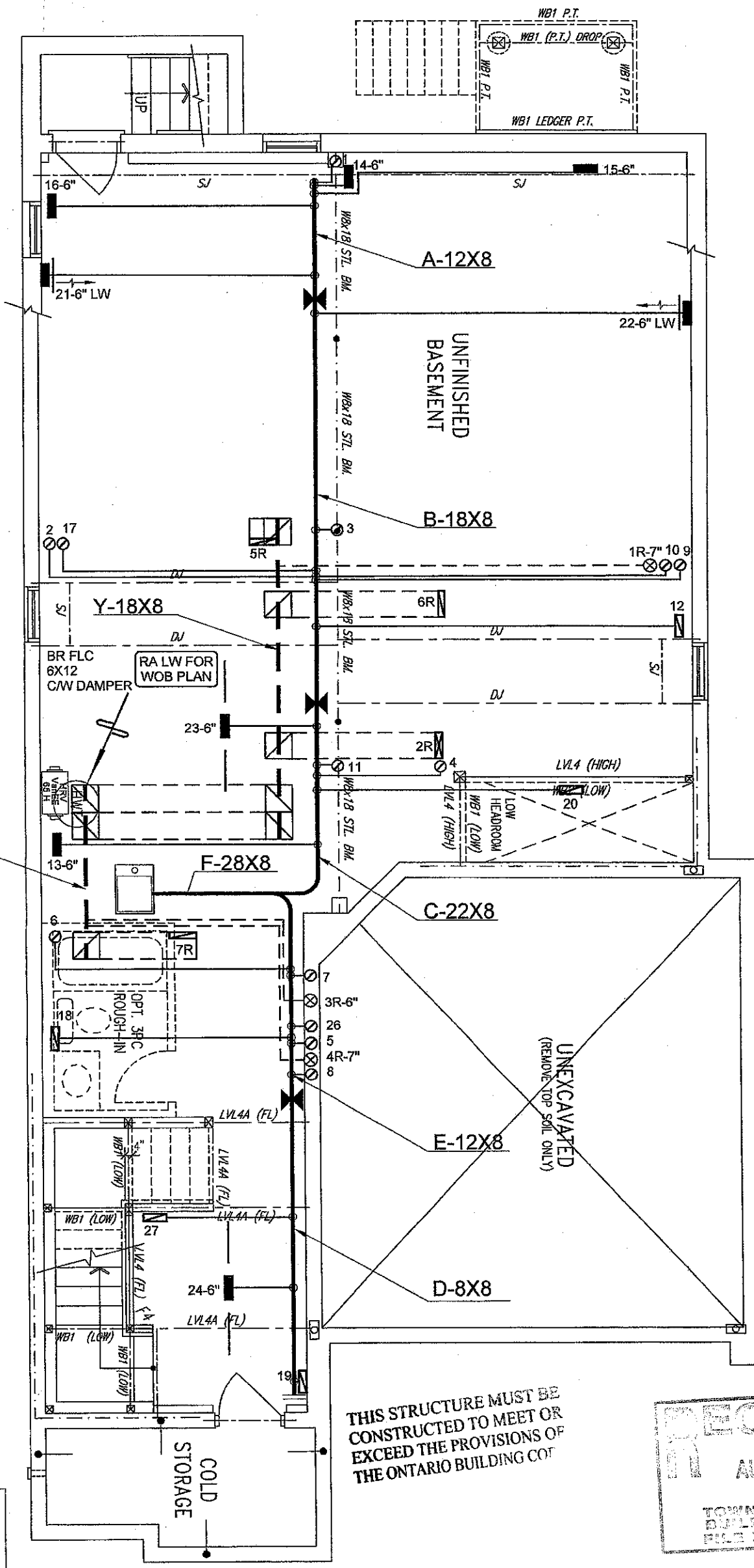
Air Infiltration Residential Load Calculator

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):	6.43			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1055.9			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2,5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.		985.7 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):	0.221			
Cooling Air Leakage Rate (ACH/H):	0.072			

TYPE: PRESTON 3
LO# 83241

LOT 62



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 M M

APPROVED
For construction as per the
Ontario Building Code
Town of Caledon Building Department
Initial *SA*
Date *AUG 16, 2019*
File # *BAP1910471*

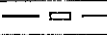
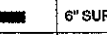
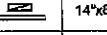
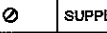
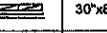
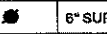
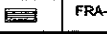
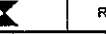
LOT 62
WOB
CSA-F280-12


ENERGY STAR

THIS STRUCTURE MUST BE
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THE ONTARIO BUILDING CODE

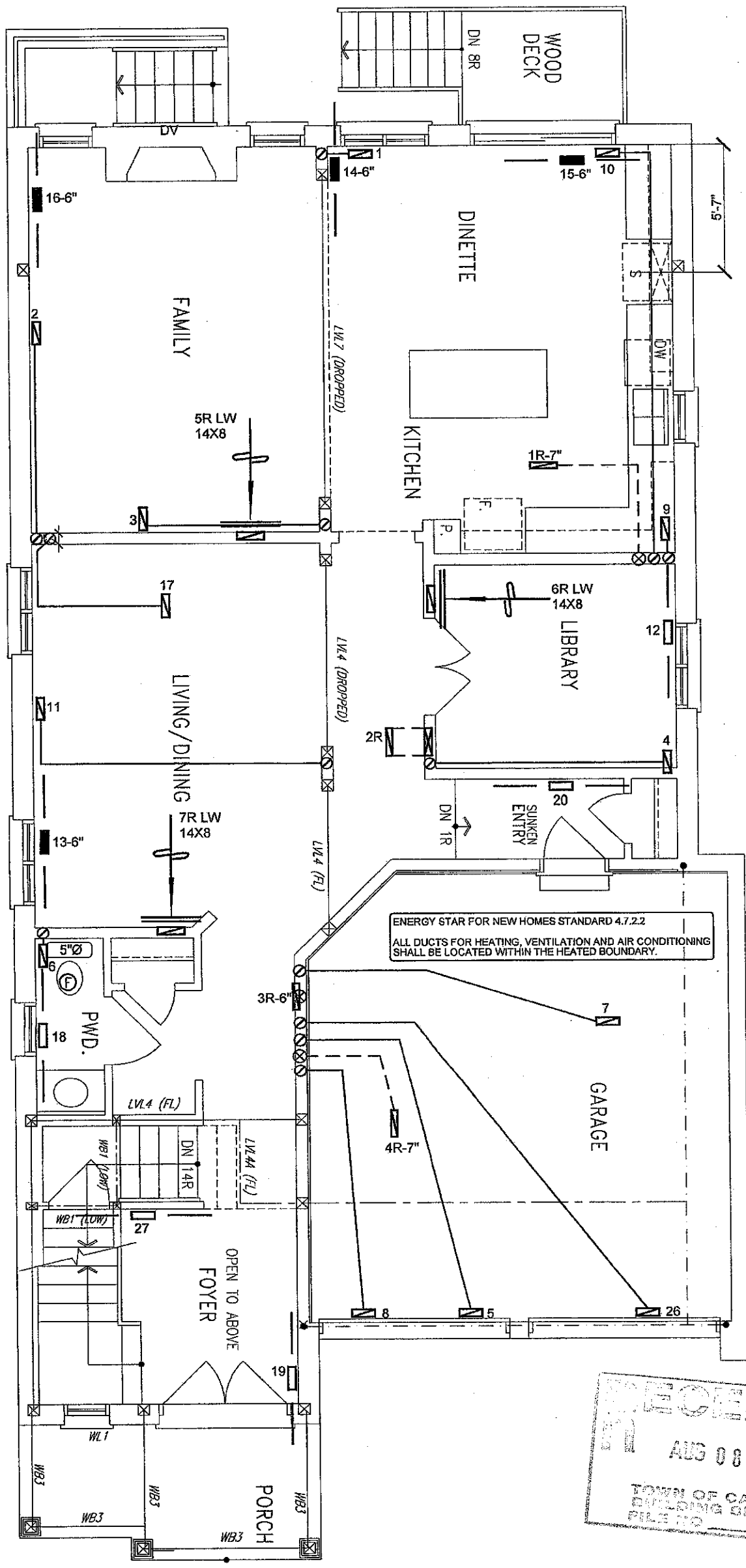
RECEIVED
AUG 08 2019
TOWN OF CALEDON
BUILDING SECTION
FILE #

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, BSNP 15669
HVAC DESIGNS LTD.

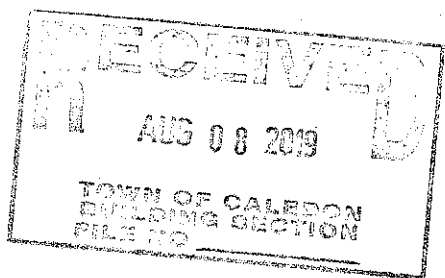
HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK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

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Client GREENPARK HOMES		 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	HEAT LOSS 42812 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title BASEMENT HEATING LAYOUT
Project Name LAMBERTS LANE HOME CORP PH 2 CALEDON, ONTARIO			MAKE GOODMAN		3RD FLOOR		
LOT 62 PRESTON 3		2959 sqft	MODEL GMEC960603BNA-60		2ND FLOOR		Date JULY/2019
			INPUT 60 MBTU/H		1ST FLOOR		
			OUTPUT 57.6 MBTU/H		BASEMENT		Scale 3/16" = 1'-0"
			COOLING 2.5 TONS		ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A		
			FAN SPEED 1131 cfm @ 0.8" w.c.				BCIN# 19669 LO# 83241



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.



LOT 62

WOB

CSA-F280-12

ENERGY STAR

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

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Client

GREENPARK HOMES

Project Name

LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO

LOT 62
PRESTON 3

2959 sqft

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
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.

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

Sheet Title

FIRST FLOOR
HEATING
LAYOUT

Date

JULY/2019

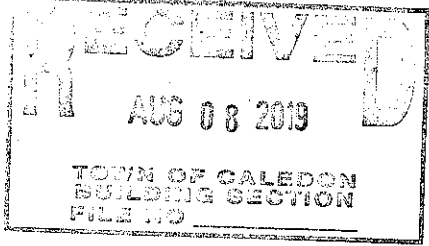
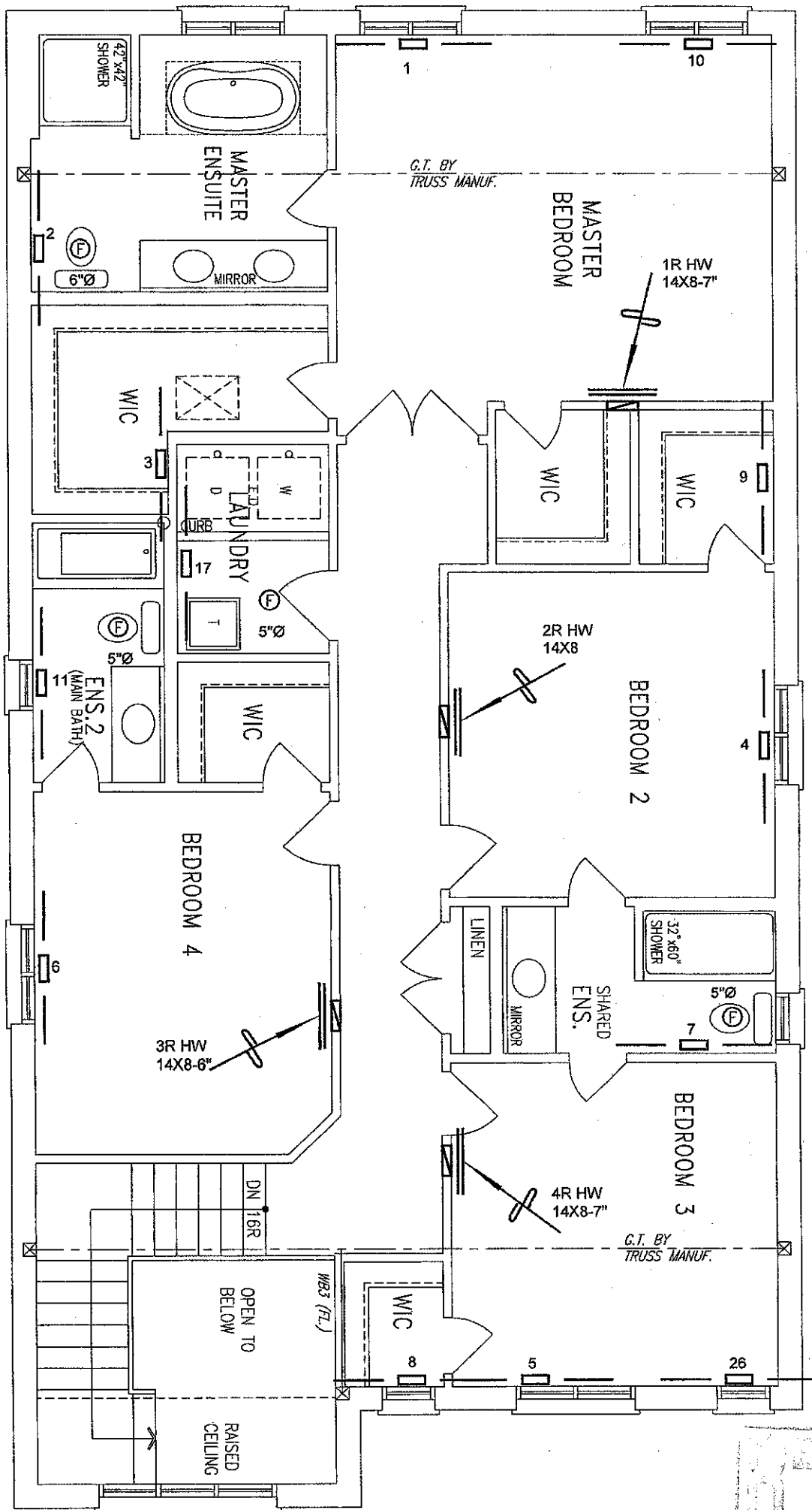
Scale

3/16" = 1'-0"

BCIN# 19669

LO#

83241



LOT 62

WOB

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								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"x6" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client

GREENPARK HOMES

Project Name

LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO

LOT 62
PRESTON 3

2959 sqft

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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.

THIS STRUCTURE MUST BE
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Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

JULY/2019

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

83241