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

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

SITE NAME: LAMBERT'S LANE PH.2 | DATE: Jul-19 | WINTER NATURAL AIR CHANGE RATE 0.221 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: KINMOUNT 6A | GFA: 3062 | LO# 81358 | SUMMER NATURAL AIR CHANGE RATE 0.072 | HEAT GAIN ΔT °F. 11 | ENERGYSTAR

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH						ENS-4					
EXP. WALL			33			37			13			15			35			31			14						6					
CLG. HT.			8			8			8			8			8			8			8						8					
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	267			299			105			121			283			251			113						48					
GLAZING			LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN				LOSS		GAIN			
NORTH	18.6	14.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				7	130	99			
EAST	18.6	37.6	0	0	0	0	0	0	0	0	0	0	0	0	45	835	1690	37	686	1389	0	0	0				0	0	0			
SOUTH	18.6	22.3	0	0	0	16	297	357	0	0	0	16	297	357	0	0	0	0	0	0	6	111	134				0	0	0			
WEST	18.6	37.6	32	594	1202	25	464	939	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0				0	0	0			
NET EXPOSED WALL	3.5	0.5	235	825	122	258	908	135	105	370	55	105	370	55	238	837	124	214	751	111	107	377	56				41	146	22			
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	0	0	0	0	0	0				0	0	0			
EXPOSED CLG	1.3	0.6	270	338	151	255	320	142	195	244	109	256	321	143	149	187	83	208	261	116	224	281	125				102	128	57			
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	75	201	89	48	129	57	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	256	637	94	0	0	0				102	254	38			
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0						0					
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0						0					
SUBTOTAL HT LOSS			1757			1988			614			988			2059			2464			769						858					
SUB TOTAL HT GAIN					1475			1572			163			554			1986			1768			314						215			
LEVEL FACTOR / MULTIPLIER			0.20	0.21		0.20	0.21		0.20	0.21		0.20	0.21		0.20	0.21		0.20	0.21		0.20	0.21					0.20	0.21				
AIR CHANGE HEAT LOSS			362			410			127			204			424			508			158						136					
AIR CHANGE HEAT GAIN					77			82			8			29			103			92			16						11			
DUCT LOSS			0			0			0			0			0			297			0						79					
DUCT GAIN					0			0			0			0			0			266			0						23			
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0				0		0			
HEAT GAIN APPLIANCES/LIGHTS					563			0			0			563			563			563			0						0			
TOTAL HT LOSS BTU/H			2120			2397			740			1191			2483			3269			927						872					
TOTAL HT GAIN x 1.3 BTU/H					3372			2150			224			1802			3760			3808			430						323			

ROOM USE			LIV						KIT			FAM			LAUN			W/R			FOY			OFF						BAS		
EXP. WALL			33						43			38			29			7			19			19						182		
CLG. HT.			10						10			10			12			10			10			10						9		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	330						430			380			348			70			190			190						1092		
GLAZING			LOSS		GAIN				LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN				LOSS		GAIN
NORTH	18.6	14.1	0	0	0				0	0	0	0	0	0	7	130	99	0	0	0	0	0	0	0	0	0				6	111	85
EAST	18.6	37.6	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	6	111	225	28	519	1052				0	0	0
SOUTH	18.6	22.3	30	557	669				0	0	0	0	0	0	0	0	0	7	130	156	0	0	0	0	0	0				8	148	178
WEST	18.6	37.6	0	0	0				35	649	1314	47	872	1765	0	0	0	0	0	0	0	0	0	0	0	0				6	111	225
SKYLT.	31.2	99.9	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
DOORS	24.7	3.7	0	0	0				20	493	73	0	0	0	20	493	73	0	0	0	40	986	146	0	0	0				20	493	73
NET EXPOSED WALL	3.5	0.5	300	1055	156				375	1319	195	333	1171	174	321	1129	167	63	222	33	144	506	75	162	570	84				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	0	0	0	0	0	0				546	1918	284
EXPOSED CLG	1.3	0.6	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0				0	0	0
BASEMENT/CRAWL HEAT LOSS			0						0			0			0			0			0			0						6349		
SLAB ON GRADE HEAT LOSS			0						0			0			0			0			0			0								
SUBTOTAL HT LOSS			1611						2461			2043			1752			351			1604			1089						9132		
SUB TOTAL HT GAIN					825						1583			1939			339			189			447			1136					846
LEVEL FACTOR / MULTIPLIER			0.30	0.32					0.30	0.32		0.30	0.32		0.30	0.32		0.30	0.32		0.30	0.32		0.30	0.32					0.50	0.64	
AIR CHANGE HEAT LOSS			516						788			654			561			112			513			349						5821		
AIR CHANGE HEAT GAIN					43						82			101			18			10			23			59					44
DUCT LOSS			0						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	0		0	0		0	0		0				0		0
HEAT GAIN APPLIANCES/LIGHTS					563						563			563			563			0			0			583					563
TOTAL HT LOSS BTU/H			2127						3249			2697			2312			464			2117			1438						14953		
TOTAL HT GAIN x 1.3 BTU/H					1860						2897			3383			1196			258			611			2285					1888

TOTAL HEAT GAIN BTU/H: 30483 | TONS: 2.54 | LOSS DUE TO VENTILATION LOAD BTU/H: 1593 | STRUCTURAL HEAT LOSS: 43358 | TOTAL COMBINED HEAT LOSS BTU/H: 44951

RECEIVED
JUL 30 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

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

TYPE: KINMOUNT 6A DATE: Feb-19 GFA: 3062 LO# 81358

HEATING CFM	1131	COOLING CFM	1131
TOTAL HEAT LOSS	45,140	TOTAL HEAT GAIN	30,485
AIR FLOW RATE CFM	25.06	AIR FLOW RATE CFM	37.1

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	0.02
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
GMEC960603BNA 60
FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

AFUE = 96 %
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	9	4
R/A	0	0	4	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	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	BED-4	BED-3	MBR	ENS-4	LIV	FAM	KIT	KIT	FAM	LAUN	W/R	FOY	OFF	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.19	1.69	0.79	1.25	1.38	1.77	0.98	1.77	1.38	1.19	0.90	2.16	1.37	1.65	1.65	1.37	2.35	0.47	2.15	1.46	3.84	3.84	3.84	3.84
CFM PER RUN HEAT	30	42	20	31	35	44	25	44	35	30	22	54	34	41	41	34	59	12	54	37	96	96	96	96
RM GAIN MBH.	1.71	1.45	0.23	1.81	1.91	1.93	0.44	1.93	1.91	1.71	0.33	1.86	1.69	1.45	1.45	1.69	1.20	0.26	0.61	2.29	0.47	0.47	0.47	0.47
CFM PER RUN COOLING	63	54	9	67	71	72	16	72	71	63	12	69	63	54	54	63	44	10	23	85	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	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	57	49	37	21	45	47	37	37	47	44	33	14	38	35	31	46	46	8	37	28	51	30	11	28
EQUIVALENT LENGTH	190	130	180	140	130	200	140	170	90	150	170	140	160	140	120	130	140	120	170	140	150	170	130	190
TOTAL EFFECTIVE LENGTH	247	179	217	161	175	247	177	207	137	194	203	154	198	175	151	176	186	128	207	168	201	200	141	218
ADJUSTED PRESSURE	0.07	0.1	0.08	0.11	0.1	0.07	0.1	0.08	0.13	0.09	0.08	0.11	0.09	0.1	0.11	0.1	0.09	0.13	0.08	0.1	0.08	0.08	0.11	0.07
ROUND DUCT SIZE	6	5	4	5	5	6	4	6	5	5	4	5	5	5	5	5	5	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	153	308	229	228	257	224	287	224	257	220	252	396	250	301	301	250	433	138	396	189	489	489	489	489
COOLING VELOCITY (ft/min)	321	396	103	492	521	367	184	367	521	463	138	507	463	396	396	463	323	115	169	433	92	92	92	92
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	B	B	E	C	D	E	E	E	D	B	E	E	A	B	B	A	A	C	D	D	A	B	C	D

RUN #	25
ROOM NAME	ENS
RM LOSS MBH.	0.84
CFM PER RUN HEAT	21
RM GAIN MBH.	0.72
CFM PER RUN COOLING	27
ADJUSTED PRESSURE	0.17
ACTUAL DUCT LGH.	19
EQUIVALENT LENGTH	130
TOTAL EFFECTIVE LENGTH	149
ADJUSTED PRESSURE	0.12
ROUND DUCT SIZE	4
HEATING VELOCITY (ft/min)	241
COOLING VELOCITY (ft/min)	310
OUTLET GRILL SIZE	3X10
TRUNK	C

THIS STRUCTURE [illegible] CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	223	0.08	8	8	x	8	502	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	280	0.07	9	10	x	8	504	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	663	0.07	12.4	18	x	8	663	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	257	0.07	8.7	10	x	8	463	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	466	0.07	10.9	14	x	8	599	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	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	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	786	0.06	13.8	22	x	8	643
TRUNK Y	345	0.06	10.1	12	x	8	518
TRUNK Z	0	0.06	0	0	x	8	0
DROP	1131	0.06	15.8	24	x	10	679

RETURN AIR #	1	2	3	4	5	6										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	155	170	95	85	290	165	0	0	0	0	0	0	0	0	0	171
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
ACTUAL DUCT LGH.	58	43	56	56	20	32	1	1	1	1	1	1	1	1	1	19
EQUIVALENT LENGTH	180	175	165	190	135	170	0	0	0	0	0	0	0	0	0	165
TOTAL EFFECTIVE LH	238	218	221	246	155	202	1	1	1	1	1	1	1	1	1	184
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.10	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08
ROUND DUCT SIZE	7.5	7.5	6	6	8.3	7.4	0	0	0	0	0	0	0	0	0	7.2
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	24	14	0	0	0	0	0	0	0	0	0	14

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INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: KINMOUNT 6A LO # 81358
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	3	@ 10.6 cfm	31.8	cfm
Kitchen & Bathrooms	5	@ 10.6 cfm	53	cfm
Other Rooms	4	@ 10.6 cfm	42.4	cfm
Table 9.32.3.A.		TOTAL	169.6	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	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	169.6	cfm
Less Principal Ventil. Capacity	79.6	cfm
Required Supplemental Capacity	90.1	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
BATH	FV-05-11VK1	50	✓	0.3
ENS-4	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 @ 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 RESPONIBILITY 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

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

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 81358 Model: KINMOUNT 6A Builder: GREENPARK HOMES Date: 01/02/2019

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1371	9	12339
First	1371	10	13710
Second	1691	9	15219
Third	0	9	0
Fourth	0	9	0
		Total:	41,268.0 ft³
		Total:	1168.6 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.227
SUMMER NATURAL AIR CHANGE RATE	0.074

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

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

0.227 x 324.61 x 41 °C x 1.2 = 3651 W

= 12456 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

= 0.074 x 324.61 x 6 °C x 1.2 = 176 W

= 600 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)

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

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	12,456	9,132	0.682
2	0.3		10,911	0.342
3	0.2		12,238	0.204
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

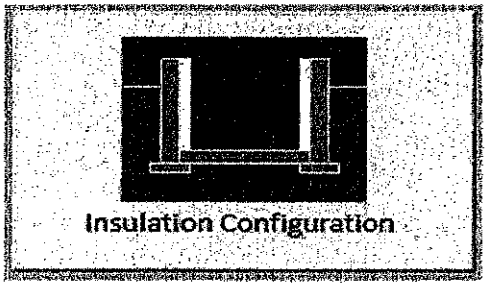
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	17.4	
Floor Width (m):	10.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	1.9	
Door Area (m^2):	1.9	


Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	**1860**	

TYPE: KINMOUNT 6A
LO# 81358

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:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	1168.6
Air Leakage/Ventilation	
Air Tightness Type:	Energy Star Detached (2.5 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1090.9 cm^2
	2.50 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: 37.5 Total Exhaust: 37.5
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.227**
Cooling Air Leakage Rate (ACH/H):	**0.074**

TYPE: KINMOUNT 6A
LO# 81358

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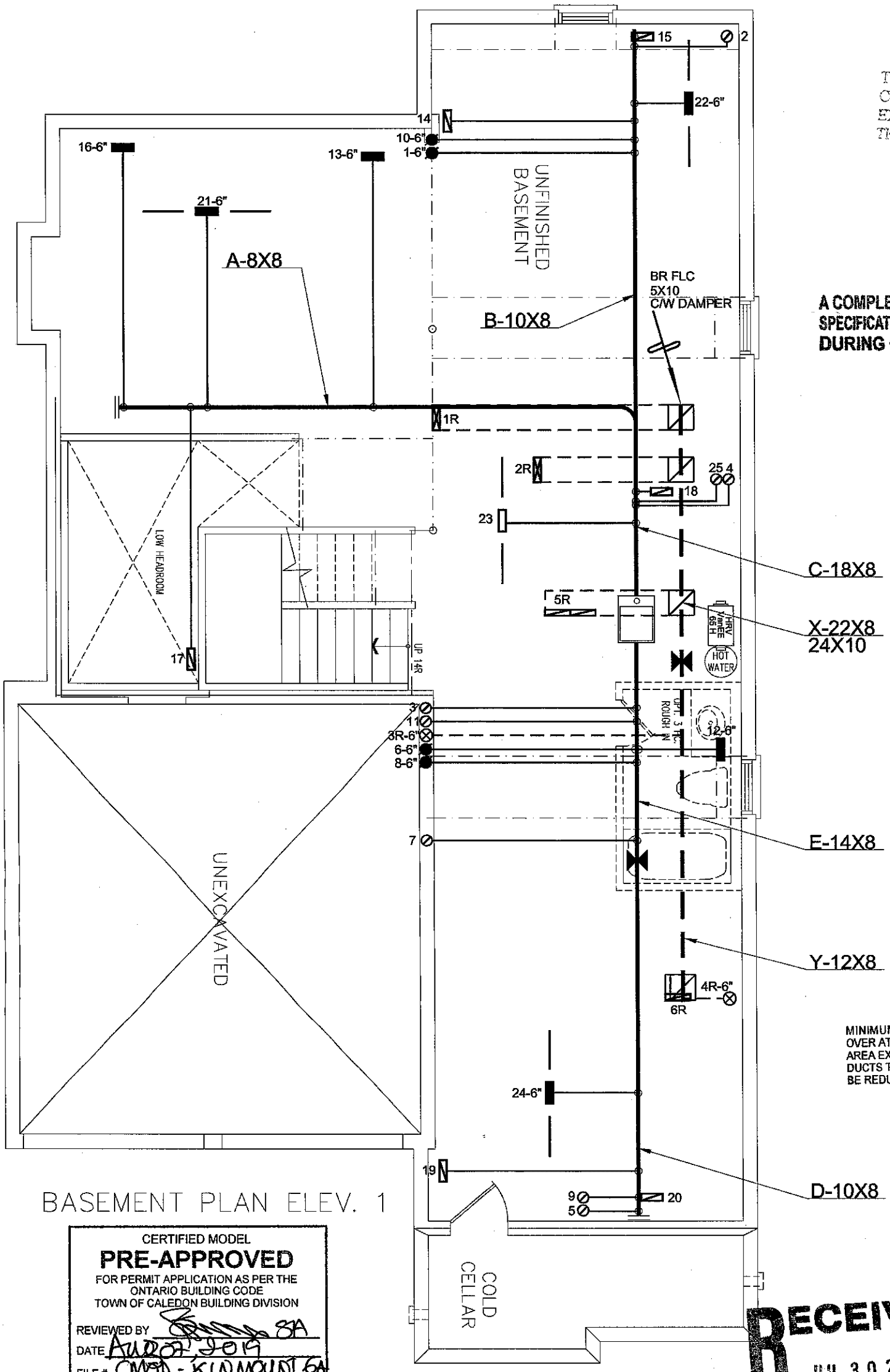

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A COMPLETE SET OF REVIEWED DRAWINGS & SPECIFICATIONS MUST BE KEPT ON SITE AT ALL TIME DURING CONSTRUCTION AS PER O.B.C.

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

BASEMENT PLAN ELEV. 1

CERTIFIED MODEL
PRE-APPROVED
FOR PERMIT APPLICATION AS PER THE ONTARIO BUILDING CODE
TOWN OF CALEDON BUILDING DIVISION
REVIEWED BY SA
DATE AUG 02, 2019
FILE # CMOD - KINMOUNT 6A
(ELEV 1, 2, & 3)

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

RECEIVED
JUL 30 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

CSA-F280-12
ENERGY STAR

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
LAMBERT'S LANE HOME CORP PH 2
CALEDON, ONTARIO

KINMOUNT 6A 3062 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.

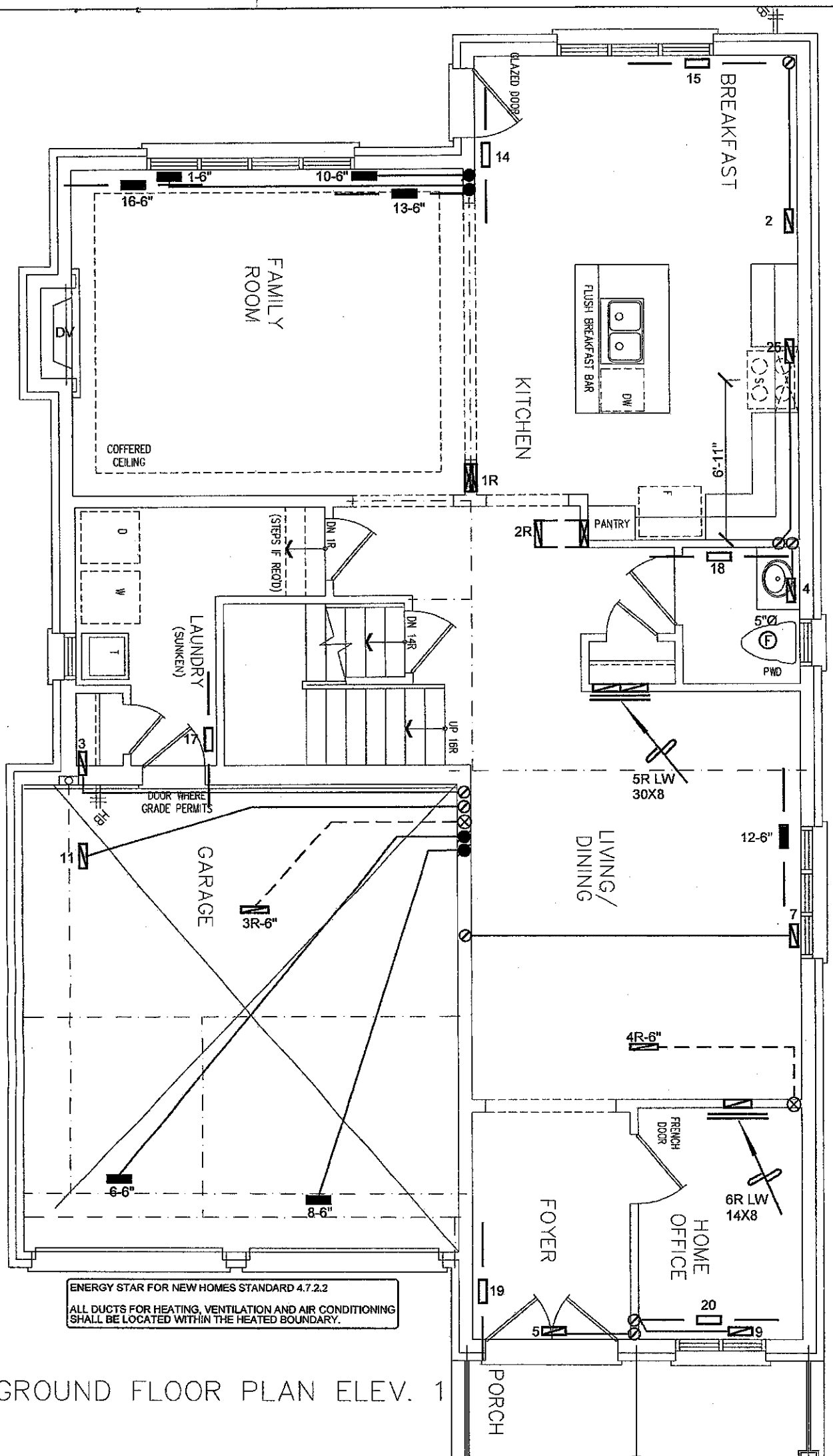
HEAT LOSS 44951 BTU/H	
UNIT DATA	
MAKE	GOODMAN
MODEL	GMEC960603BNA
INPUT	60 MBTU/H
OUTPUT	57.6 MBTU/H
COOLING	2.5 TONS
FAN SPEED	1131 cfm @ 0.5" w.c.

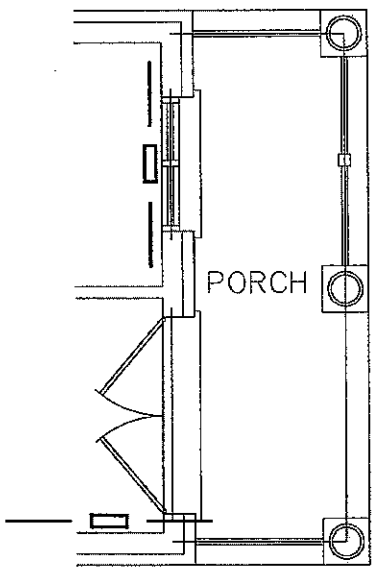
# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	12	4	4
1ST FLOOR	9	2	2
BASEMENT	4	1	0

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

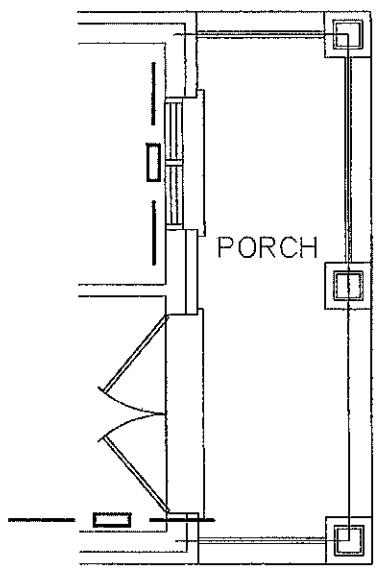
Sheet Title
BASEMENT HEATING LAYOUT

Date FEB/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81358





GROUND FLOOR PLAN ELEV. 3



GROUND FLOOR PLAN ELEV. 2

ENERGY STAR FOR NEW HOMES STANDARD 4.7.2.2

ALL DUCTS FOR HEATING, VENTILATION AND AIR CONDITIONING SHALL BE LOCATED WITHIN THE HEATED BOUNDARY.

GROUND FLOOR PLAN ELEV. 1

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

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.

RECEIVED
JUL 30 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

CSA-F280-12

ENERGY STAR

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

Client
GREENPARK HOMES

Project Name
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CALEDON, ONTARIO

KINMOUNT 6A 3062 sqft

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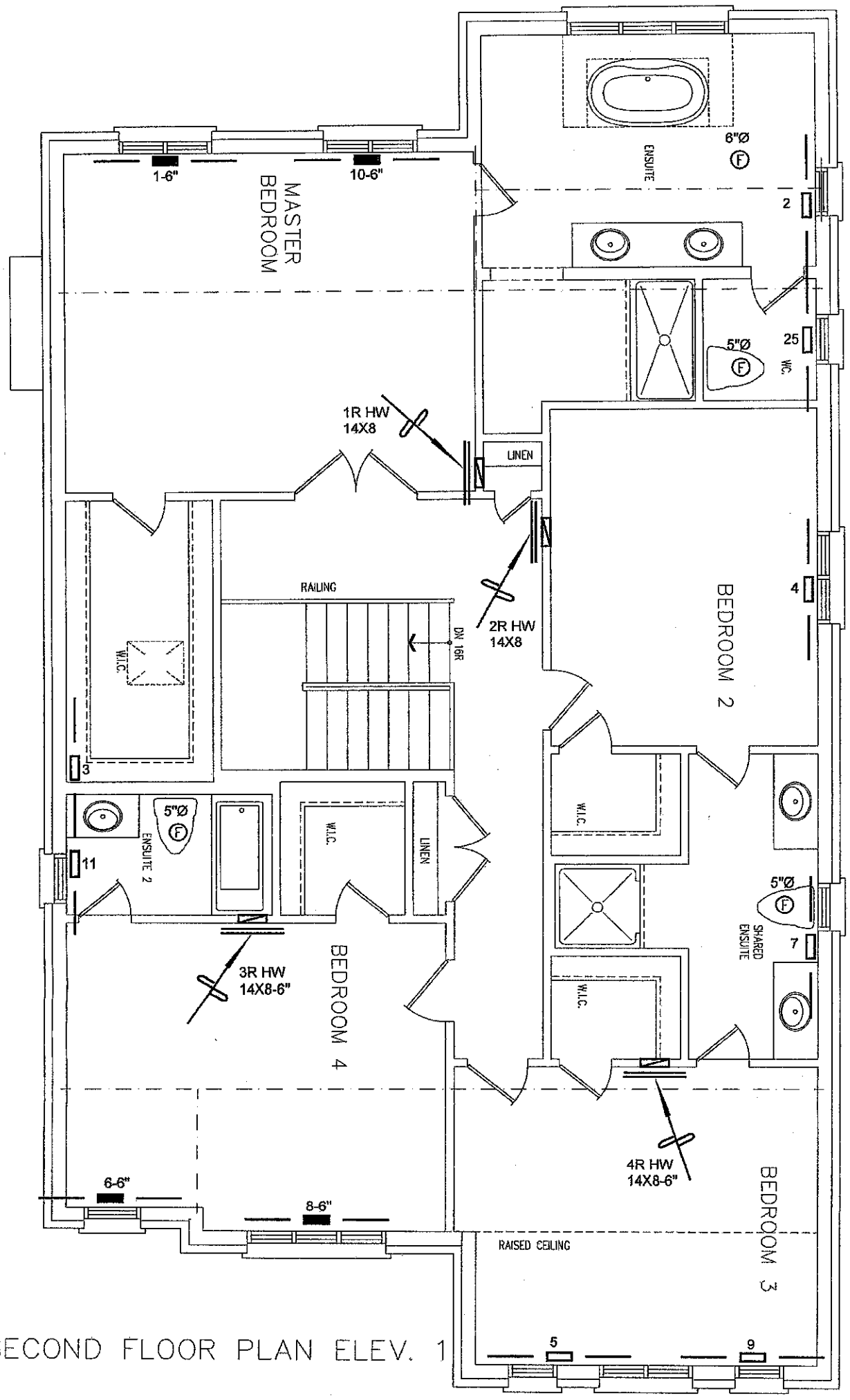
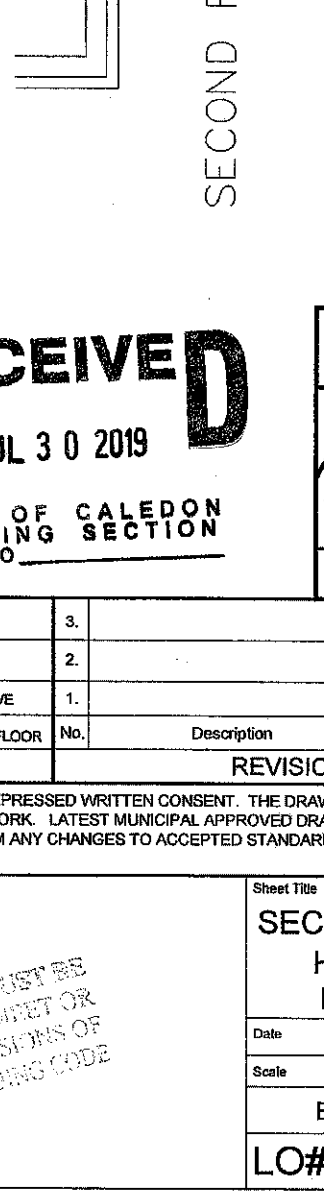
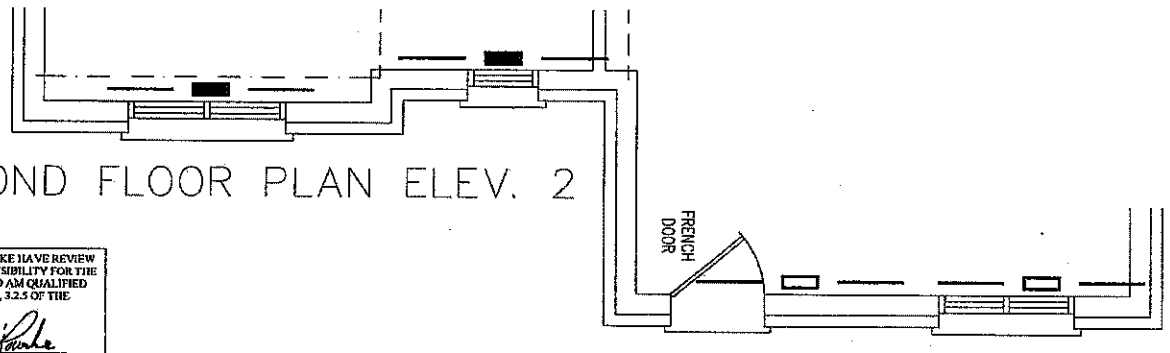
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date FEB/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81358



SECOND FLOOR PLAN ELEV. 1





SECOND FLOOR PLAN ELEV. 2

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

RECEIVED
JUL 30 2019
TOWN OF CALEDON
BUILDING SECTION
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ENERGY STAR

HVAC LEGEND

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Sheet Title
SECOND FLOOR HEATING LAYOUT

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LO# 81358