

SITE NAME: TRINAR HALL HOMES
BUILDER: GREENPARK HOMES

For Lot 14
TYPE: GLENWAY 12A

GFA: 2969


DATE: Feb-19
LO# 81524

WINTER NATURAL AIR CHANGE RATE 0.247
SUMMER NATURAL AIR CHANGE RATE 0.069

HEAT LOSS ΔT °F. 81
HEAT GAIN ΔT °F. 11

CSA-F280-12
ENERGYSTAR

ROOM USE			MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		ALC		ENS-4		
EXP. WALL			33		22		9		15		23		15		23		23		12		
CLG. HT.			9		9		9		9		9		9		9		9		9		
FACTORS			297		198		81		135		207		135		207		207		108		
GRS.WALL AREA			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		
GLAZING			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		
NORTH			20.4	15.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST			20.4	40.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH			20.4	24.1	0	0	0	18	366	433	0	0	0	0	0	0	0	0	0	0	0
WEST			20.4	40.7	36	733	1466	14	285	570	14	285	570	0	0	0	0	0	0	0	0
SKYLT.			34.2	99.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS			27.0	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL			3.9	0.5	261	1007	136	166	640	87	67	258	35	125	482	65	170	656	89	114	440
NET EXPOSED BSMT WALL ABOVE GR			3.9	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG			1.4	0.6	334	459	186	142	195	79	54	74	30	240	330	134	204	281	114	143	197
NO ATTIC EXPOSED CLG			2.9	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR			2.7	0.4	0	0	0	15	41	6	0	0	0	10	27	4	225	615	83	0	0
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					2199		1528		618		1043		2392		1064		1333		1407		899
SUB TOTAL HT GAIN						1788		1174		635		354		1828		645		593		701	
LEVEL FACTOR / MULTIPLIER			0.20	0.24			0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24	
AIR CHANGE HEAT LOSS					533		371		150		253		580		258		323		341		218
AIR CHANGE HEAT GAIN						72		47		25		14		73		26		166		175	
DUCT LOSS					0		190		0		130		297		0		166		175		0
DUCT GAIN					0		122		0		132		286		0		62		73		0
HEAT GAIN PEOPLE			240		2	480	0	0	0	0	1	240	1	240	1	240	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS						715		0		0		715		715		715		0		0	
TOTAL HT LOSS BTU/H					2732		2088		767		1426		3269		1322		1822		1923		1117
TOTAL HT GAIN x 1.3 BTU/H						3971		1747		859		1892		4084		2113		882		1043	



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	202
Sewage System			
Zoning			



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ROOM USE	EXP. WALL	CLG. HT.	LV/DN	KT/FM	OFF	LAUN	FOY	MUD	WOD	BAS
			30	70	24	18	18	12	43	194
			10	10	18	12	10	12	9	9
FACTORS			300		700	432	216	180	144	387
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
GLAZING										
NORTH	20.4	15.1	0	0	0	0	0	0	0	0
EAST	20.4	40.7	9	183	366	0	0	0	0	0
SOUTH	20.4	24.1	77	1567	1853	30	611	722	33	672
WEST	20.4	40.7	9	183	366	71	1445	2891	0	0
SKYLT.	34.2	99.9	0	0	0	0	0	0	0	0
DOORS	27.0	3.7	0	0	0	25	676	91	0	0
NET EXPOSED WALL	3.9	0.5	205	791	107	674	2214	299	339	1308
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.5	0	0	0	0	0	0	0	0
EXPOSED CLG	1.4	0.6	0	0	0	0	0	0	168	231
NO ATTIC EXPOSED CLG	2.9	1.2	20	59	24	10	29	12	0	0
EXPOSED FLOOR	2.7	0.4	0	0	0	0	0	0	0	0
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			2783			4975			3431	
SUB TOTAL HT GAIN				2717		4015		3508		130
LEVEL FACTOR / MULTIPLIER			0.30	0.30		0.30	0.30		0.30	0.30
AIR CHANGE HEAT LOSS			839			1500		1034		265
AIR CHANGE HEAT GAIN				109		161		141		5
DUCT LOSS			0			0		0		0
DUCT GAIN			0			0		0		0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				715		715		715		715
TOTAL HT LOSS BTU/H			3622			6475		4466		1142
TOTAL HT GAIN x 1.3 BTU/H				4603		6359		5572		1106

TOTAL HEAT GAIN BTU/H:

37236

TONS: 3.10

LOSS DUE TO VENTILATION LOAD BTU/H: 1747

STRUCTURAL HEAT LOSS: 53574

TOTAL COMBINED HEAT LOSS BTU/H: 55321

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HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 53,574 TOTAL HEAT GAIN 37,000
AIR FLOW RATE CFM 21.11 AIR FLOW RATE CFM 30.57

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

#GOODMAN
GMEC960603BNA 60

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	10	5
R/A	0	0	5	3	1

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 LOW
MEDLOW
MEDIUM
MEDIUM HIGH

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

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

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

HIGH 1131 TEMPERATURE RISE 47 °F

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ALC	BED-3	MBR	ENS-4	LV/DN	KT/FM	KT/FM	OFF	LAUN	MUD	FOY	KT/FM	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.37	2.09	0.77	1.43	1.63	1.32	1.82	1.92	1.63	1.37	1.12	1.81	2.16	2.16	2.23	1.14	1.33	2.57	2.16	3.50	3.50	3.50	3.50
CFM PER RUN HEAT	29	44	16	30	35	28	38	41	35	29	24	38	46	46	47	24	28	54	46	74	74	74	74
RM GAIN MBH.	1.99	1.75	0.86	1.89	2.04	2.11	0.88	1.04	2.04	1.99	0.82	2.30	2.12	2.12	2.84	1.11	0.19	0.44	2.12	0.24	0.24	0.24	0.24
CFM PER RUN COOLING	61	53	26	58	62	65	27	32	62	61	25	70	65	65	87	34	6	13	65	7	7	7	7
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	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	27	34	50	57	50	40	57	44	53	33	48	24	30	16	53	24	14	43	26	23	19	29	47
EQUIVALENT LENGTH	120	130	140	150	140	200	180	130	150	160	200	190	130	110	120	110	100	150	140	130	120	170	120
TOTAL EFFECTIVE LENGTH	147	164	190	207	190	240	237	174	203	193	248	214	160	126	173	134	114	193	166	153	139	199	167
ADJUSTED PRESSURE	0.12	0.1	0.09	0.08	0.09	0.07	0.07	0.1	0.08	0.09	0.07	0.08	0.11	0.14	0.09	0.13	0.15	0.09	0.1	0.11	0.12	0.09	0.1
ROUND DUCT SIZE	5	5	4	6	5	6	5	4	5	5	4	6	5	5	6	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	213	323	184	153	257	143	279	470	257	213	275	194	338	338	240	275	321	396	338	543	543	543	543
COOLING VELOCITY (ft/min)	448	389	298	296	455	331	198	367	455	448	287	357	477	477	444	390	69	95	477	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	B	E	F	E	E	E	A	E	F	B	A	D	C	C	D	A	B	A	F	D

RUN #	25	26	27
ROOM NAME	OFF	LV/DN	BAS
RM LOSS MBH.	2.23	1.81	3.50
CFM PER RUN HEAT	47	38	74
RM GAIN MBH.	2.84	2.30	0.24
CFM PER RUN COOLING	87	70	7
ADJUSTED PRESSURE	0.16	0.17	0.17
ACTUAL DUCT LGH.	45	27	20
EQUIVALENT LENGTH	120	170	180
TOTAL EFFECTIVE LENGTH	165	197	200
ADJUSTED PRESSURE	0.1	0.09	0.09
ROUND DUCT SIZE	6	6	5
HEATING VELOCITY (ft/min)	240	194	543
COOLING VELOCITY (ft/min)	444	357	51
OUTLET GRILL SIZE	4X10	4X10	3X10
TRUNK	D	F	C



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Zoning			

SUPPLY AIR TRUNK SIZE															RETURN 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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT				VELOCITY (ft/min)			
TRUNK A	224	0.09	7.8	8	x	8	504		TRUNK G	0	0.00	0	0	x	8	0		TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	180	0.09	7.2	8	x	8	405		TRUNK H	0	0.00	0	0	x	8	0		TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	530	0.09	10.7	14	x	8	681		TRUNK I	0	0.00	0	0	x	8	0		TRUNK Q	0	0.05	0	0	x	8	0
TRUNK D	222	0.09	7.7	8	x	8	500		TRUNK J	0	0.00	0	0	x	8	0		TRUNK R	0	0.05	0	0	x	8	0
TRUNK E	395	0.07	10.2	12	x	8	593		TRUNK K	0	0.00	0	0	x	8	0		TRUNK S	0	0.05	0	0	x	8	0
TRUNK F	573	0.07	11.8	18	x	8	573		TRUNK L	0	0.00	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	435	0.05	11.6	16	x	8	489
																		TRUNK W	870	0.05	15	26	x	8	602
																		TRUNK X	1131	0.05	16.5	32	x	8	636
																		TRUNK Y	435	0.05	11.6	16	x	8	489
																		TRUNK Z	285	0.05	9.9	12	x	8	428
																		DROP	1131	0.05	16.5	24	x	10	679
RETURN AIR #	1	2	3	4	5	6	7	8						BR											
	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
AIR VOLUME	95	75	75	75	280	155	135	75	0	0	0	0	0	0	166										
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										
ACTUAL DUCT LGH.	40	70	63	66	28	29	53	64	1	1	1	1	1	1	14										
EQUIVALENT LENGTH	165	255	225	215	195	200	240	255	0	0	0	0	0	0	175										
TOTAL EFFECTIVE LH	205	325	288	281	223	229	293	319	1	1	1	1	1	1	189										
ADJUSTED PRESSURE	0.07	0.05	0.05	0.05	0.07	0.06	0.05	0.05	14.80	14.80	14.80	14.80	14.80	14.80	0.08										
ROUND DUCT SIZE	6	6	6	6	9	7.5	7.5	6	0	0	0	0	0	0	7.2										
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	8										
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
INLET GRILL SIZE	14	14	14	14	30	14	14	14	0	0	0	0	0	0	14										

TYPE: GLENWAY 12A
SITE NAME: TRINAR HALL HOMES

LO # 81524

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) <input checked="" type="checkbox"/>	Direct vent (sealed combustion) only	
b) <input type="checkbox"/>	Positive venting induced draft (except fireplaces)	
c) <input type="checkbox"/>	Natural draft, B-vent or induced draft gas fireplace	
d) <input type="checkbox"/>	Solid Fuel (including fireplaces)	
e) <input type="checkbox"/>	No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/>	Forced Air
<input type="checkbox"/>	Non Forced Air
<input type="checkbox"/>	Electric Space Heat

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/>	I Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/>	II Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/>	III Any Type c) appliance	
<input type="checkbox"/>	IV Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/>	1 Exhaust only/Forced Air System	
<input type="checkbox"/>	2 HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/>	3 HRV Simplified/connected to forced air system	
<input type="checkbox"/>	4 HRV with Ducting/non forced air system	
<input type="checkbox"/>	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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A. TOTAL		180.2 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	180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	100.7	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
79.5 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 CFM	X 81 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
BATH	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
ENS-4	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
PWD	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> 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 #:	



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INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

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Sewage System			
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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:	February-19

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

LO#: 81524

Model: GLENWAY 12A

Builder: GREENPARK HOMES

Date: 2/22/2019

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1462	9	13158
First	1462	10	14620
Second	1580	9	14220
Third	0	9	0
Fourth	0	9	0
Total:			41,998.0 ft³
Total:			1189.3 m³

WINTER NATURAL AIR CHANGE RATE	0.247
SUMMER NATURAL AIR CHANGE RATE	0.069

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-23	45	81
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage
6.2.6 Sensible Gain due to Air Leakage

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

$$0.247 \times 330.35 \times 45^\circ\text{C} \times 1.2 = 4436 \text{ W}$$

$$= 15135 \text{ Btu/h}$$

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

$$= 0.069 \times 330.35 \times 6^\circ\text{C} \times 1.2 = 167 \text{ W}$$

$$= 569 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation
6.2.7 Sensible heat Gain due to Ventilation

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

$$80 \text{ CFM} \times 81^\circ\text{F} \times 1.08 \times 0.25 = 1747 \text{ Btu/h}$$

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

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

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

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

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 / HL _{clevel})
1	0.5	15,135	9,938	0.762
2	0.3		15,061	0.301
3	0.2		12,483	0.243
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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Sewage System			
Zoning			

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: GLENWAY 12A	BUILDER: GREENPARK HOMES
SFQT: 2969	SITE: TRINAR HALL HOMES
LO# 81524	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-9	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):	41998.0	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:	6.5 ft
LENGTH: 59.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	194.0 ft



2012 OBC - COMPLIANCE PACKAGE

Component

Ceiling with Attic Space Minimum RSI (R)-Value

Ceiling Without Attic Space Minimum RSI (R)-Value

Exposed Floor Minimum RSI (R)-Value

Walls Above Grade Minimum RSI (R)-Value

Basement Walls Minimum RSI (R)-Value

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

Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value

Windows and Sliding Glass Doors Maximum U-Value

Skylights Maximum U-Value

Space Heating Equipment Minimum AFUE

HRV Minimum Efficiency

Domestic Hot Water Heater Minimum EF

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

Compliance Package ENERGYSTAR

Nominal	Min. Eff.
60	59.20
31	27.70
31	29.80
R22+R5	21.10
20	21.12
-	-
10	10
10	11.13
ZONE 2	-
ZONE 2	-
0.96	-
75%	-
0.9	-

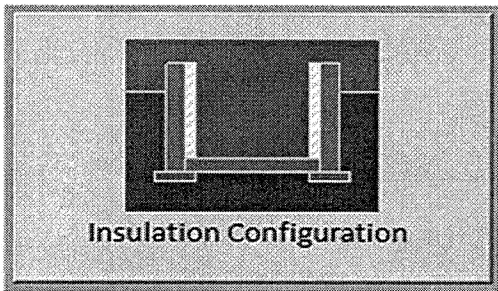
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Bradford	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.0	 <p>Insulation Configuration</p>
Floor Width (m):	11.6	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.98	
Window Area (m ²):	1.3	
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):	1959	



Town of
East Gwillimbury
Building Standards Branch BCIN #16487

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TYPE: GLENWAY 12A
LO# 81524

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Bradford		
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):	1189.3		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1110.2 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
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.247		
Cooling Air Leakage Rate (ACH/H):	0.069		



TYPE: GLENWAY 12A
LO# 81524

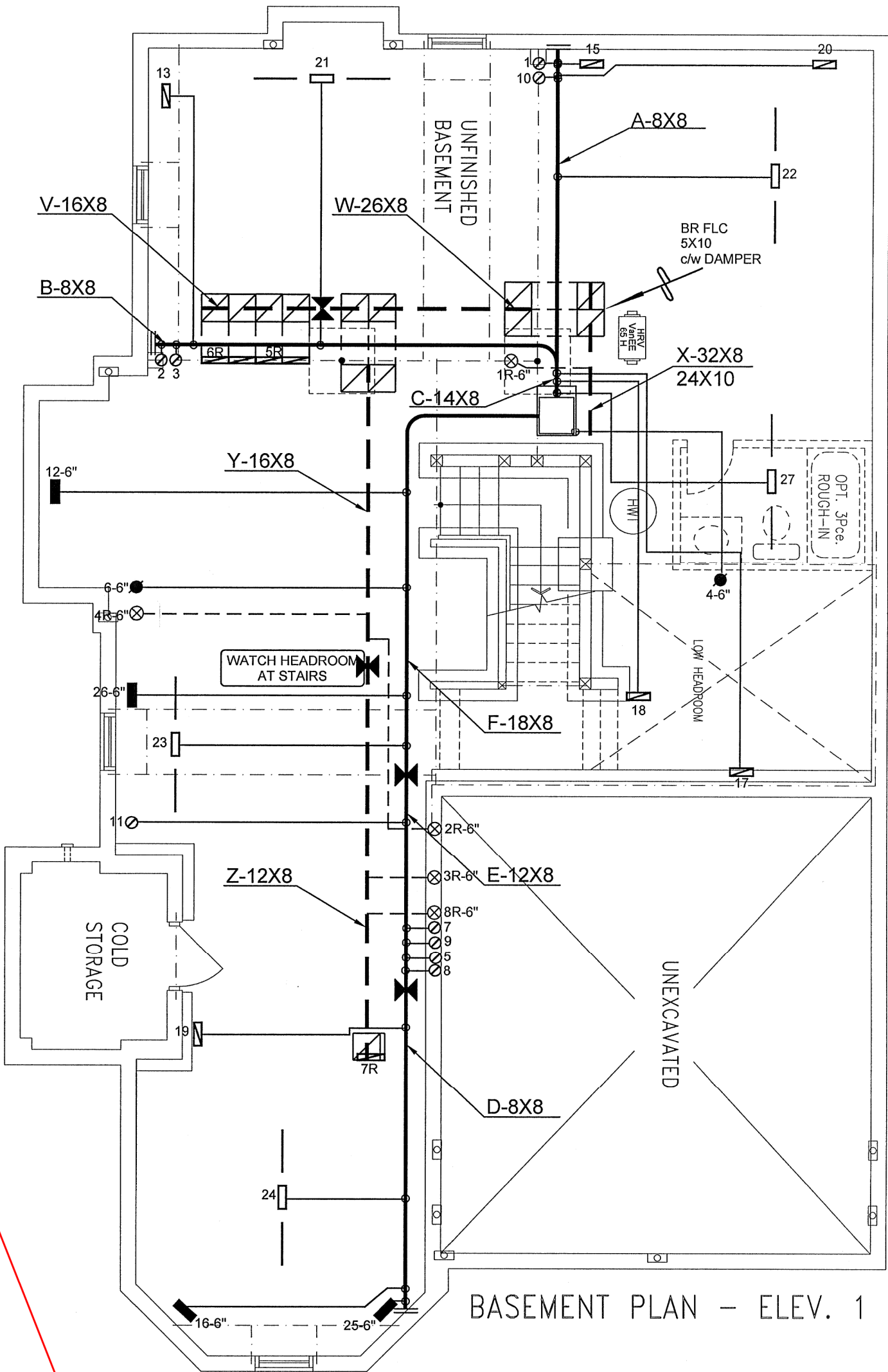
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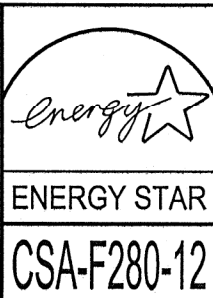


BASEMENT PLAN - ELEV. 2

BASEMENT PLAN - ELEV. 1

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
	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
						No.	Description
							Date

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Client
GREENPARK HOMES

Project Name
**TRINAR HALL HOMES
EAST GWILLIMBURY, ONT.**

For Lot 14
GLENWAY 12A 2969 sqft

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.

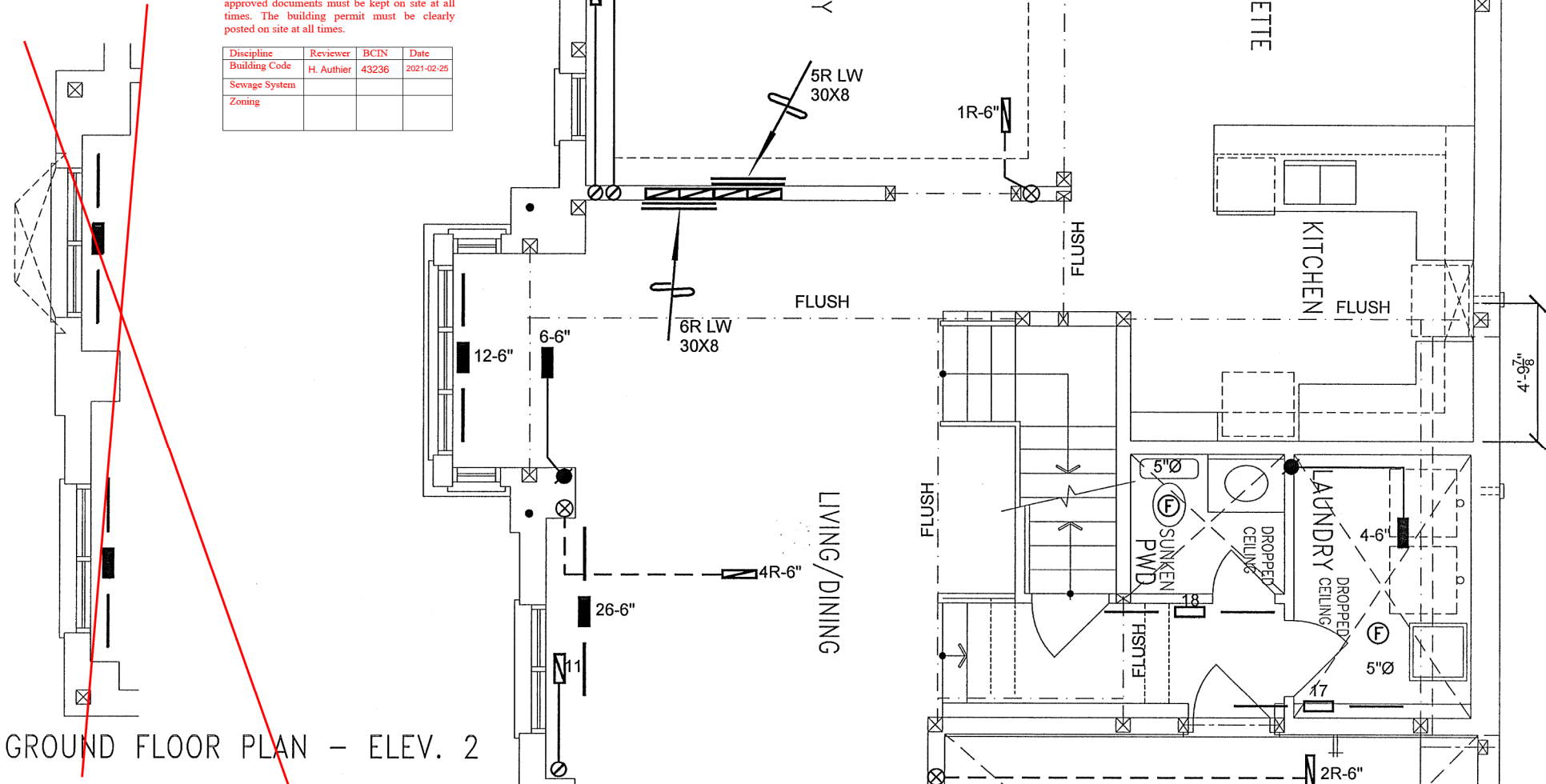
HEAT LOSS 55321 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE GOODMAN	2ND FLOOR	11	5	3
MODEL GMCE960603BNA	1ST FLOOR	10	3	3
INPUT 60 MBTU/H	BASEMENT	5	1	0
OUTPUT 57.6 MBTU/H	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			
COOLING 3.0 TONS				
FAN SPEED 1131 cfm @ 0.6" w.c.				

Sheet Title	
BASEMENT HEATING LAYOUT	
Date	FEB/2019
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	81524

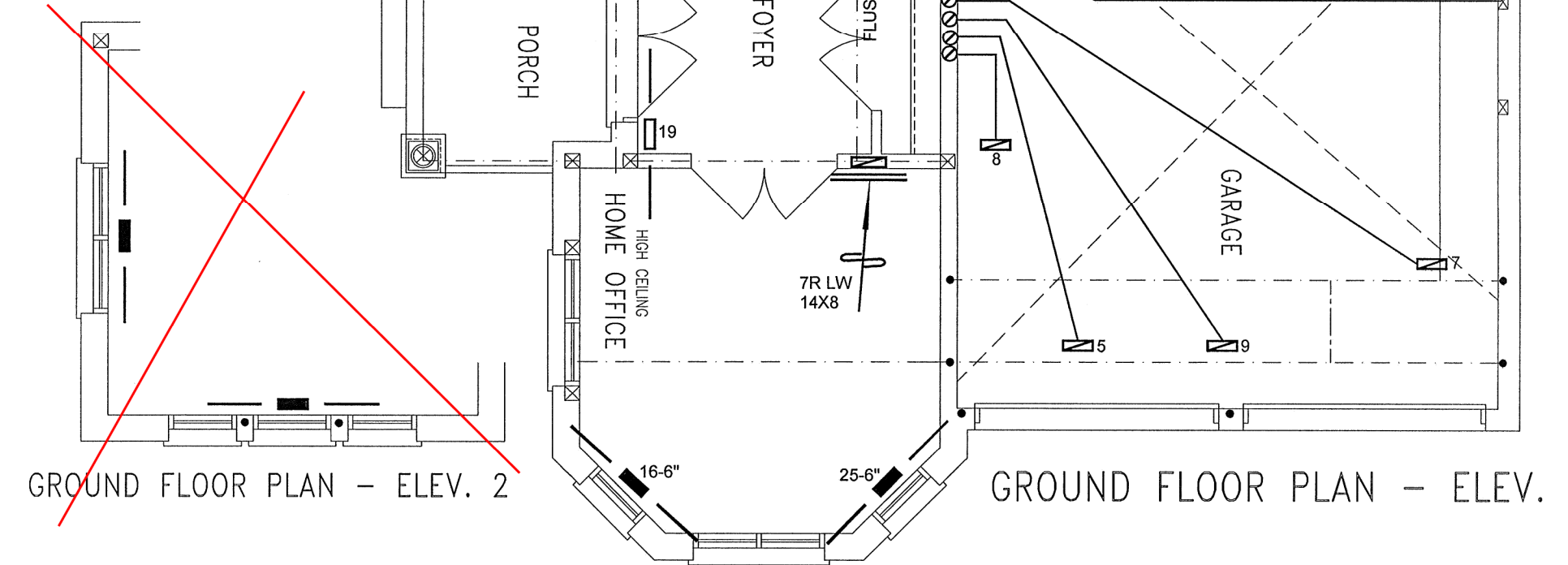


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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



GROUND FLOOR PLAN - ELEV. 2



GROUND FLOOR PLAN - ELEV. 1

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.		
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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.

Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date **FEB/2019**

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

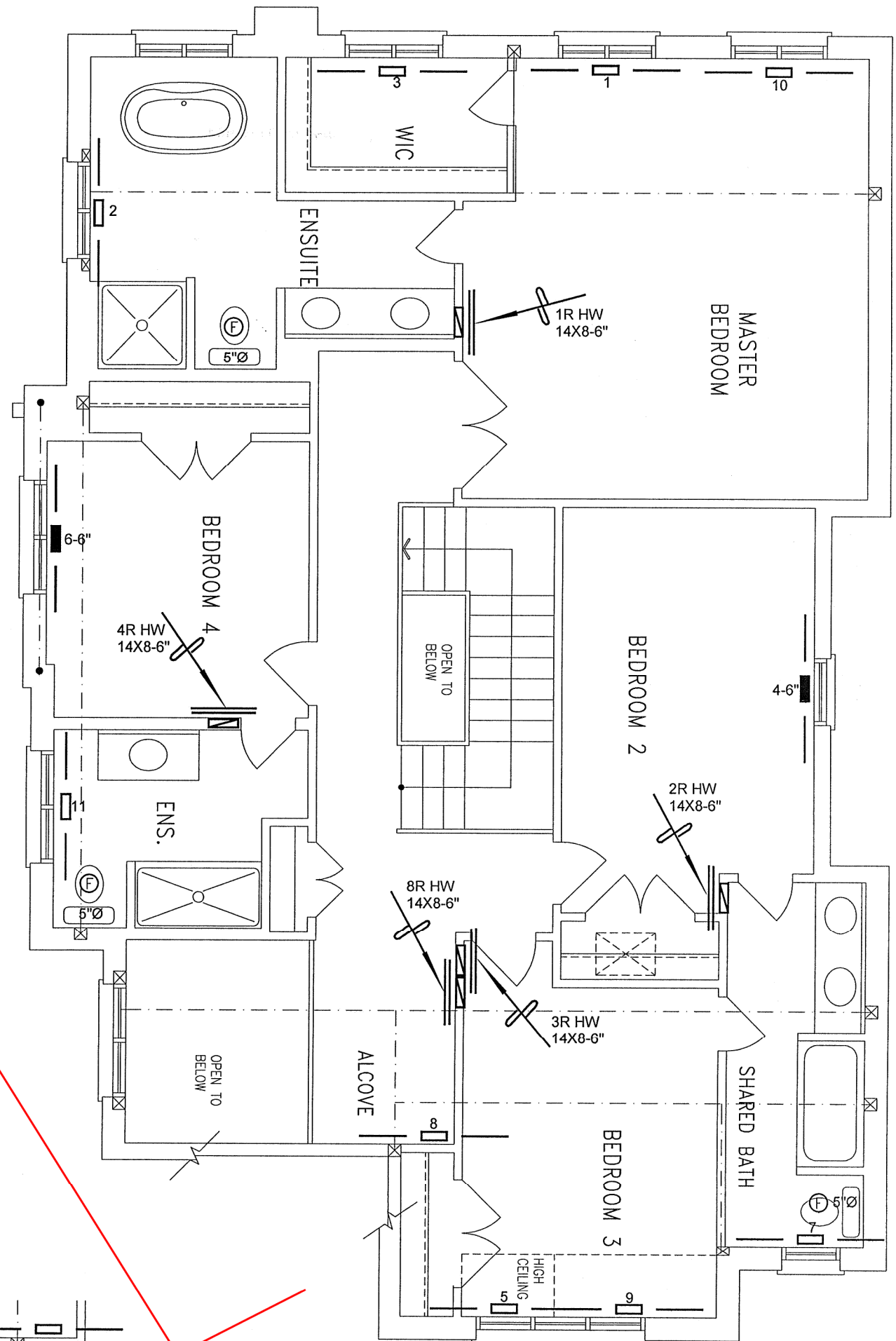
BCIN# 19669

LO# 81524

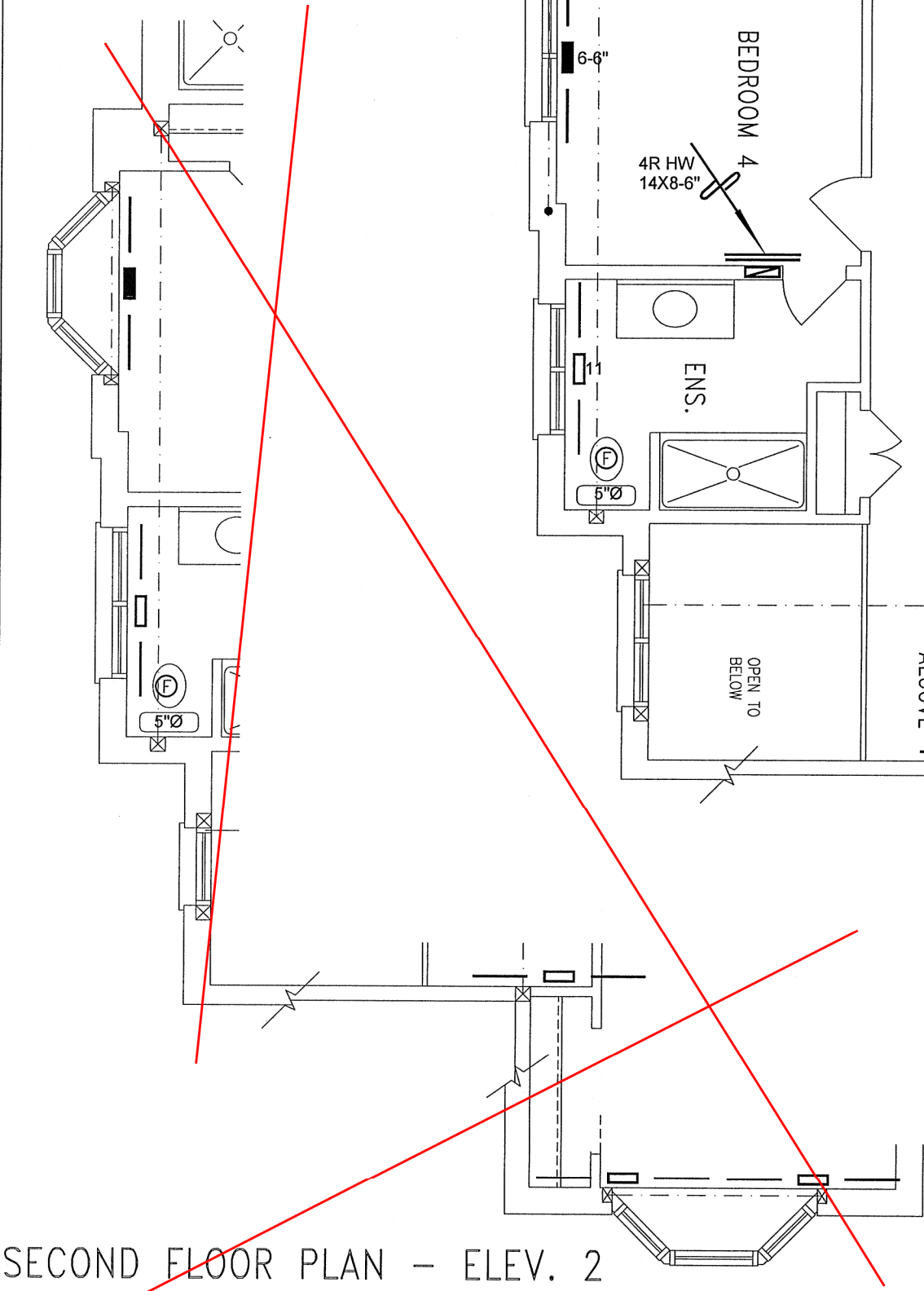


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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



SECOND FLOOR PLAN - ELEV. 1



SECOND FLOOR PLAN - ELEV. 2

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



HVAC LEGEND								3.		
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Sheet Title SECOND FLOOR HEATING LAYOUT	
Date	FEB/2019
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	81524