

SITE NAME: MINNISALE HOMES CORP

BUILDER: GREENPARK HOMES

TYPE: CLOVER 1A

GFA: 1710

DATE: Aug-18

LOW 79567

WINTER NATURAL AIR CHANGE RATE 0.357

SUMMER NATURAL AIR CHANGE RATE 0.112

HEAT LOSS ΔT °F. 74

HEAT GAIN ΔT °F. 11

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WVC	BED-2	BED-3	BATH
	16	10	8	8	11	18	10	8
FACTORS	160	73	0	105	171			
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
GLAZING								
NORTH	20.8	15.3	0	0	0	0	0	0
EAST	20.8	40.5	0	0	0	0	0	0
SOUTH	20.8	24.1	0	0	0	0	0	0
WEST	20.8	40.5	32	665	1296	14	291	567
SKYL.T.	36.4	100.7	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	128	556	83	59	256	38
NET EXPOSED BENT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	208	261	116	90	113	50
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	56	139	21	0	0	0
BASEMENT/CRAWL HEAT LOSS								
SLAB ON GRADE HEAT LOSS								
SUBTOTAL HT LOSS			1623		660	70	1598	1505
SUB TOTAL HT GAIN				1515	655	31	1134	1425
LEVEL FACTOR / MULTIPLIER	0.20	0.36		0.20	0.36		0.20	0.36
AIR CHANGE HEAT LOSS			592		241		583	549
AIR CHANGE HEAT GAIN				106	47		81	102
DUCT LOSS			221		0		218	0
DUCT GAIN				273	0		208	0
HEAT GAIN PEOPLE	240	2	480	0	0	0	1	240
HEAT GAIN APPLIANCES/LIGHTS			629		0		629	629
TOTAL HT LOSS BTU/H			2436		900	96	2399	2055
TOTAL HT GAIN x 1.3 BTU/H				3908	913	43	2980	3116

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA
JAN 10 2019
ATTACHED NOTES ARE PART
OF REVISED DRAWINGS
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ROOM USE	LIV			KT/FM			FOY			WOO			BAS		
EXP. WALL	45			58			21			22			96		
CLG. HT.	10			10			11			8			8		
FACTORS															
GRS.WALL AREA	LOSS GAIN 446			575			231			183			644		
GLAZING	LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN		
NORTH	20.8	15.3	0 0 0	0 0 0			0 0 0			0 0 0			3 62 46		
EAST	20.8	40.5	25 519 1013	0 0 0			10 208 405			0 0 0			0 0 0		
SOUTH	20.8	24.1	0 0 0	0 0 0			0 0 0			0 0 0			0 0 0		
WEST	20.8	40.5	0 0 0	40 831 1620			0 0 0			6 125 243			0 0 0		
SKYLT.	36.4	100.7	0 0 0	0 0 0			0 0 0			0 0 0			0 0 0		
DOORS	24.7	3.7	20 493 73	12 296 44			20 493 73			0 0 0			20 493 73		
NET EXPOSED WALL	4.4	0.6	401 1749 259	523 2280 338			201 876 130			0 0 0			0 0 0		
NET EXPOSED BENT WALL ABOVE GR	3.5	0.5	0 0 0	0 0 0			0 0 0			126 443 66			156 548 81		
EXPOSED CLG	1.3	0.6	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		
EXPOSED FLOOR	2.5	0.4	0 0 0	0 0 0			0 0 0			0 0 0			0 0 0		
BASEMENT/CRAWL HEAT LOSS	0			0			0			0			0		
SLAB ON GRADE HEAT LOSS	0			0			0			0			3143		
SUBTOTAL HT LOSS	2761			3407			1577			0			4246		
SUB TOTAL HT GAIN	1345			2002			608			567			200		
LEVEL FACTOR / MULTIPLIER	0.30	0.40		0.30	0.40		0.30	0.40		0.50	1.06				
AIR CHANGE HEAT LOSS	1096			1352			625			8121			36		
AIR CHANGE HEAT GAIN	96			143			43			0			0		
DUCT LOSS	0			0			0			0			0		
DUCT GAIN	0			0			0			0			0		
HEAT GAIN PEOPLE	240	0	0	0			0			0			0		
HEAT GAIN APPLIANCES/LIGHTS	629			629			0			0			0		
TOTAL HT LOSS BTU/H	3857			4759			2202			567			9368		
TOTAL HT GAIN x 1.3 BTU/H	2892			3607			847			401			308		

TOTAL HEAT GAIN BTU/H:

19102

TONS: 1.59

LOSS DUE TO VENTILATION LOAD BTU/H: 1274

STRUCTURAL HEAT LOSS: 28854

TOTAL COMBINED HEAT LOSS BTU/H: 30128

Michael O'Rourke

SITE NAME: MINNISSALE HOMES CORP
BUILDER: GREENPARK HOMES

TYPE: CLOVER 1A

DATE: Aug-18

GFA: 1710 LO# 79567

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 28,854 TOTAL HEAT GAIN 18,913
AIR FLOW RATE CFM 30.84 AIR FLOW RATE CFM 47.06

furnace pressure 0.8
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

#GOODMAN
GMCE960402BNA 40
FAN SPEED LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 890

AFUE = 96 %
INPUT (BTUH) = 40,000
OUTPUT (BTUH) = 38,400
DESIGN CFM = 890
CFM @ 5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	5	4
R/A	0	0	3	1	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5"Ø unless noted otherwise on layout.

plenium 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

RUN #	1	2	3	4	5	6	7	8	10	12	13	14	15	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-3	BATH	BED-2	MBR	LIV	LIV	KT/FM	KT/FM	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.22	0.90	0.10	1.20	1.03	1.03	0.22	1.20	1.22	1.93	1.93	2.38	2.38	2.20	2.48	2.48	2.48	2.48
CFM PER RUN HEAT	38	28	3	37	32	32	7	37	38	59	59	73	73	68	77	77	77	77
RM GAIN MBH	1.95	0.91	0.04	1.49	1.56	1.56	0.10	1.49	1.95	1.35	1.35	1.80	1.80	0.85	0.18	0.18	0.18	0.18
CFM PER RUN COOLING	92	43	2	70	73	73	5	70	92	63	63	85	85	40	8	8	8	8
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	35	20	17	50	23	27	17	54	41	25	19	21	32	35	21	16	29	16
EQUIVALENT LENGTH	170	170	160	170	120	160	140	160	130	150	90	170	130	120	140	120	160	130
TOTAL EFFECTIVE LENGTH	205	190	177	220	143	187	157	214	171	175	109	191	162	155	161	136	189	146
ADJUSTED PRESSURE	0.08	0.09	0.1	0.08	0.12	0.09	0.11	0.08	0.09	0.1	0.16	0.08	0.1	0.11	0.11	0.13	0.09	0.12
ROUND DUCT SIZE	6	4	4	5	5	5	4	5	6	5	5	6	6	5	5	5	5	5
HEATING VELOCITY (ft/min)	194	321	34	272	235	235	80	272	194	433	433	372	372	499	565	565	565	565
COOLING VELOCITY (ft/min)	469	493	23	514	536	536	57	514	469	463	463	433	433	294	59	59	59	59
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	A	A	A	B	A	C	A	B	C	C	A	C	B	A	C

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	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK A 342	0.08	9.4	12	x 8 513	TRUNK G 0	0.00	0	0	x 8 0
TRUNK B 485	0.08	10.7	16	x 8 546	TRUNK H 0	0.00	0	0	x 8 0
TRUNK C 407	0.08	10	12	x 8 611	TRUNK I 0	0.00	0	0	x 8 0
TRUNK D 0	0.00	0	0	x 8 0	TRUNK J 0	0.00	0	0	x 8 0
TRUNK E 0	0.00	0	0	x 8 0	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	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(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 890	0.06	14.4	24	x 8 688
TRUNK Y 0	0.06	0	0	x 8 0
TRUNK Z 145	0.06	7.3	8	x 8 435
DROP 890	0.06	14.4	24	x 10 534

RUN #	1	2	3	5	6	7	8	10	12	13	14	15	19	21	22	23	24
AIR VOLUME	145	175	85	0	335	0	0	0	0	0	0	0	0	150			
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
ACTUAL DUCT LGH	47	30	56	1	16	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	135	190	0	175	0	0	0	0	0	0	0	0	1	1	1	1
TOTAL EFFECTIVE LH	232	165	246	1	191	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.09	0.06	14.80	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
ROUND DUCT SIZE	7.3	7.1	6	0	9.3	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	0	8	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
INLET GRILL SIZE	14	14	14	0	30	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: CLOVER 1A
SITE NAME: MINNISSALE HOMES CORP

LO # 79567

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	2 @ 10.6 cfm	21.2 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm	42.4 cfm
Other Rooms	3 @ 10.6 cfm	31.8 cfm
Table 9.32.3.A	TOTAL	137.8 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		63.6 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5
Total Ventilation Capacity	137.8	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	74.2	cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	AT °F	FACTOR	% LOSS
63.6 CFM	74 F	1.08	0.25

SUPPLEMENTAL FANS		PANASONIC	
Location	Model	cfm	HVI
ENS	FV-05-11VK1	50	☒
BATH	FV-05-11VK1	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11
Model: VANEE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	☒ HVI Approved	
(32 deg F (0 deg C))		

LOCATION OF INSTALLATION	
Lot:	Concession
Township:	Plan:
Address	
Roll #	Building Permit #

BUILDER: GREENPARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

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

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	August-18

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.
INDIVIDUAL BCIN: 19669 *Michael O'Rourke* MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 79567

Model: CLOVER 1A

Builder: GREENPARK HOMES

Date: 8/3/2018

Volume Calculation

House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	768	8	6397.44
First	768	10	7618.56
Second	942	8	7614.186
Third	0	9	0
Fourth	0	9	0
Total:			21,630.2 ft ³
Total:			612.5 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.357
SUMMER NATURAL AIR CHANGE RATE	0.112

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

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

0.357 x 170.14 x 41°C x 1.2 = 3002 W
 = 10243 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

0.112 x 170.14 x 6°C x 1.2 = 139 W
 = 476 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

64 CFM x 74°F x 1.08 x 0.25 = 1274 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

64 CFM x 11°F x 1.08 x 0.25 = 189 Btu/h

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

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	10,243	4,814	1.064
2	0.3		7,745	0.397
3	0.2		5,613	0.365
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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HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** CLOVER 1A**SFQT:** 1710**LO#** 79567**BUILDER:** GREENPARK HOMES**SITE:** MINNISSALE HOMES CORP**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:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	21630.2	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.3 ft
LENGTH: 45.0 ft	WIDTH: 22.0 ft	EXPOSED PERIMETER:	96.0 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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Nominal	Min. Eff.
60	59.22
31	27.65
31	29.80
22	17.03
20 ci	21.12
-	-
10	10
10	11.13
0.28	-
0.49	-
0.96	-
75%	-
0.8	-

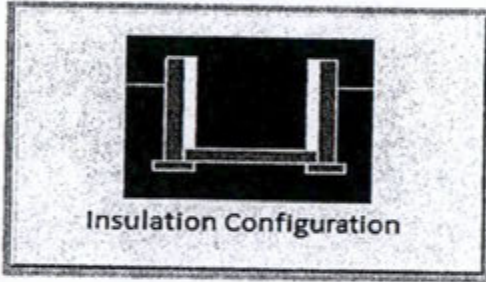
INDIVIDUAL BCIN: 19669

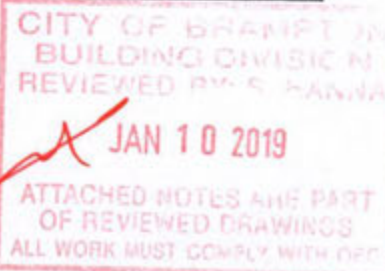
MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

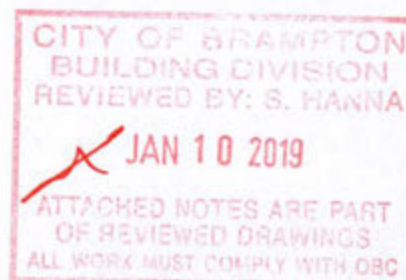
Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	13.7	 Insulation Configuration
Floor Width (m):	6.7	
Exposed Perimeter (m):	29.3	
Wall Height (m):	2.5	
Depth Below Grade (m):	1.62	
Window Area (m ²):	0.8	
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):		921

TYPE: CLOVER 1A
LO# 79567

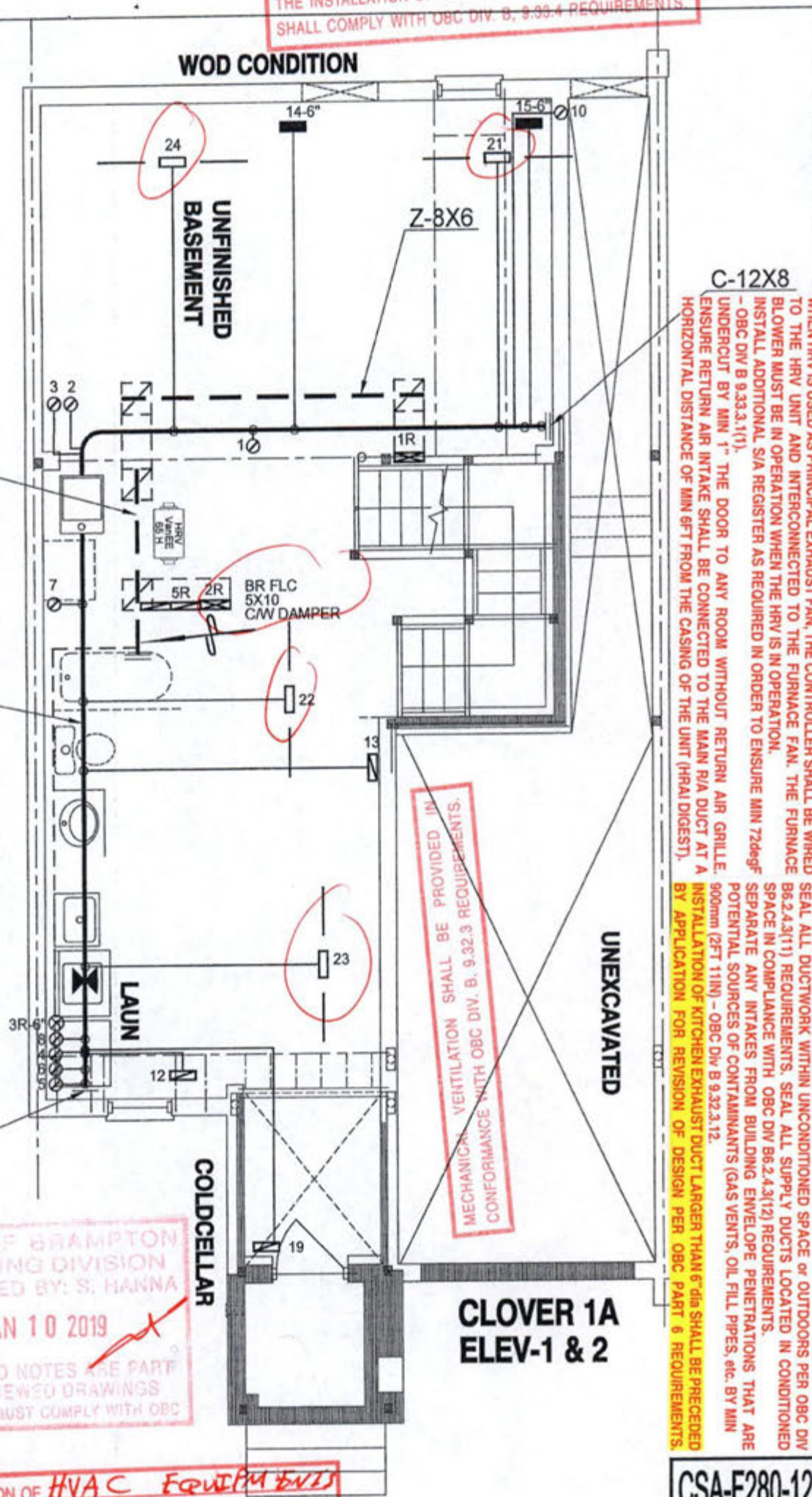
Air Infiltration Residential Load Calculator

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):	7.32		
Building Configuration			
Type:	Semi		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	612.5		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	816.5 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	30.0	30.0	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
	#4	0	
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.357		
Cooling Air Leakage Rate (ACH/H):	0.112		

TYPE: CLOVER 1A
LO# 79567

CLOVER 1A 1710 soft



THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER
THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE
INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT
1-800-785-1314

LIVING /
DINING

LIVING /
DINING

FOYER

BREAKFAST

KITCHEN

GARAGE

CLOVER 1A
ELEV-1

CLOVER 1A
ELEV-2

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA
JAN 10 2019
ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

CSA-F280-12
PACKAGE A1

1. I, MICHAEL O'NEILL, HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.3.3 OF THE
B.C. B.C. CODE.
Michael O'Neill, B.S. 1988
HVAC DESIGN LTD.

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		8" SUPPLY AIR BOOT ABOVE		14" RETURN AIR GRILLE
	SUPPLY AIR GRILLE 4" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30" RETURN AIR GRILLE
	SUPPLY AIR BOOT ABOVE		8" SUPPLY AIR STACK 2nd FLOOR		FRA FLOOR RETURN AIR GRILLE
					REDUCER

No.	Description	Date
1.		
2.		
3.		

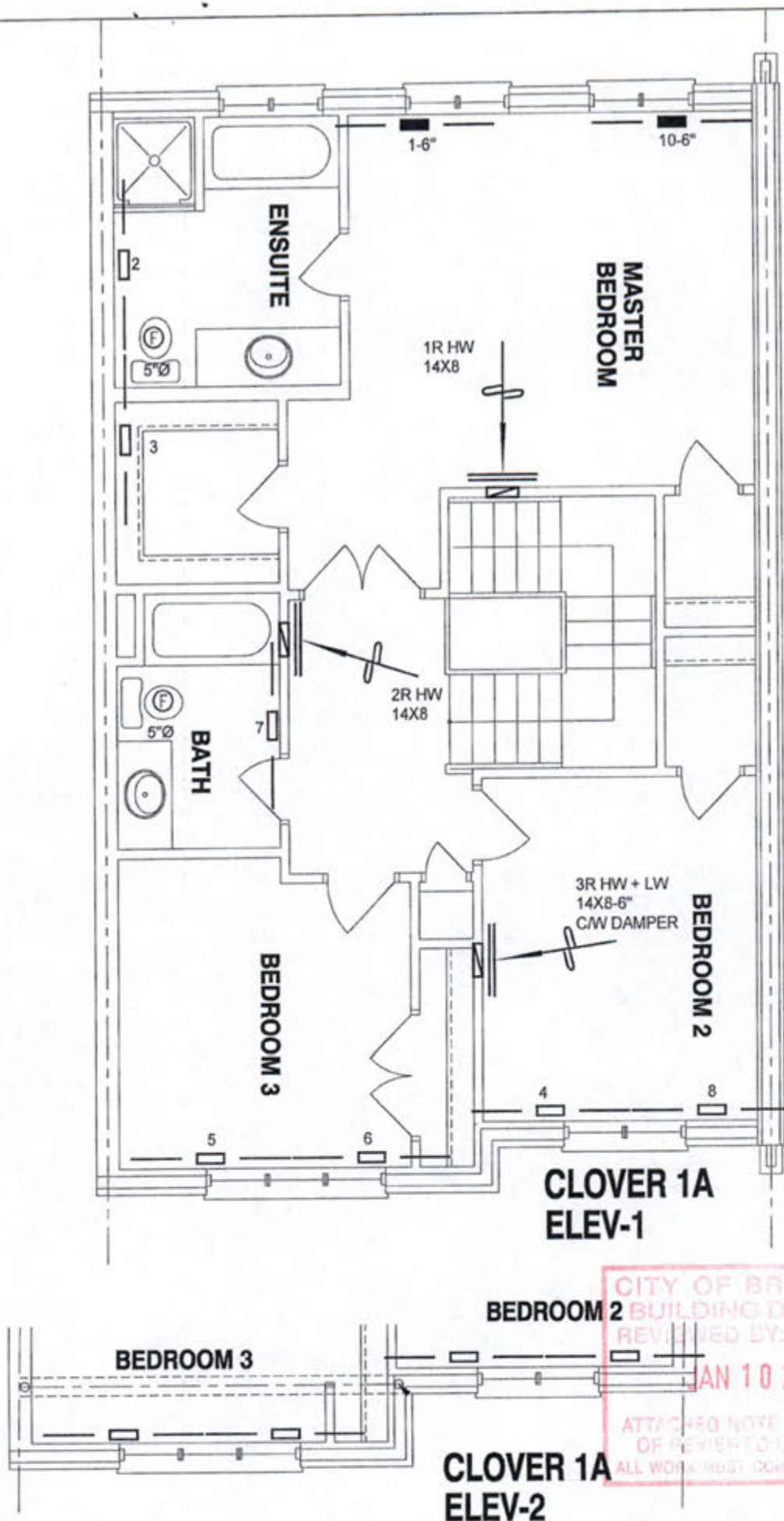
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Client
GREENAPRK HOMES
Project Name
**MINNISALE HOMES CORP
BRAMPTON, ONTARIO**

HVACDESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1B 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.

Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**
Date
AUG/2018
Scale
3/16" = 1'-0"
BCIN# 19669
LO# **79567**

CLOVER 1A 1710 sqft



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA
JAN 10 2019
ATTACHED NOTE IS A PART
OF REVIEW OF DRAWINGS
ALL WORK MUST COMPLY WITH OBC

I HEREBY CERTIFY THAT I HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.3.1 OF THE BUILDING CODE.
Michael J. Hanna
Michael J. Hanna, B.S.M. 1988
HVAC DESIGNER

CSA-F280-12
PACKAGE A1

HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6\"/>		14\"/>		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6\"/>		30\"/>		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		8\"/>		FRA-FLOOR RETURN AIR GRILLE	Date	
	SUPPLY AIR BOOT				REDUCER	REVISIONS	

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Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel: 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title	
GREENAPRK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name		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.	Date	
MINNISALE HOMES CORP BRAMPTON, ONTARIO			AUG/2018	
CLOVER 1A			Scale	
1710 sqft			3/16" = 1'-0"	
			BCIN# 19669	
			LO# 79567	