

Block 119 Units 31 to 36

SITE NAME: BARLASSINA				DATE: Aug-22				WINTER NATURAL AIR CHANGE RATE 0.319				HEAT LOSS ΔT °F. 72				CSA-F280-12			
BUILDER: GREENPARK HOMES				TYPE: CHERRY 3E				GFA: 2140				LO# 98651				SUMMER NATURAL AIR CHANGE RATE 0.085			
ROOM USE				MBR				ENS				BED-2				BED-3			
EXP. WALL				37				8				10				30			
CLG. HT.				9				9				9				9			
FACTORS																			
GRS.WALL AREA				333				72				90				270			
LOSS GAIN																			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
NORTH				20.3 15.0				0 0 0				0 0 0				0 0 0			
EAST				20.3 40.5				0 0 0				27 547 1095				24 487 973			
SOUTH				20.3 23.9				0 0 0				0 0 0				18 365 430			
WEST				20.3 40.5				18 365 730				0 0 0				0 0 0			
SKYLT.				35.5 99.8				0 0 0				0 0 0				0 0 0			
DOORS				19.1 2.4				0 0 0				0 0 0				0 0 0			
NET EXPOSED WALL				4.3 0.5				315 1339 170				56 238 30				63 268 34			
NET EXPOSED BSMT WALL ABOVE GR				3.4 0.4				0 0 0				0 0 0				0 0 0			
EXPOSED CLG				1.2 0.5				348 425 183				136 166 72				206 252 109			
NO ATTIC EXPOSED CLG				2.6 1.1				0 0 0				0 0 0				13 34 15			
EXPOSED FLOOR				2.4 0.3				0 0 0				0 0 0				0 0 0			
BASEMENT/CRAWL HEAT LOSS								0				0				0			
SLAB ON GRADE HEAT LOSS								0				0				0			
SUBTOTAL HT LOSS				2130				729				1568				1840			
SUB TOTAL HT GAIN																			
LEVEL FACTOR / MULTIPLIER				0.20 0.30				0.20 0.30				0.20 0.30				0.20 0.30			
AIR CHANGE HEAT LOSS				639				219				471				552			
AIR CHANGE HEAT GAIN				59				41				71				67			
DUCT LOSS				0				0				204				239			
DUCT GAIN				0				0				239				230			
HEAT GAIN PEOPLE				240				2				480				0			
HEAT GAIN APPLIANCES/LIGHTS								780				0				780			
TOTAL HT LOSS BTU/H				2769				948				2242				2631			
TOTAL HT GAIN x 1.3 BTU/H				3124				1029				3421				3291			

ROOM USE			K/L/D			LAUN			PWD			FOY			MUD			BAS		
EXP. WALL			61			0			8			48			11			125		
CLG. HT.			10			9			10			10			10			9		
FACTORS																				
GRS.WALL AREA			610			0			80			480			110			750		
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		
NORTH			20.3	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST			20.3	40.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH			20.3	23.9	50	1014	1195	0	0	0	7	142	167	0	0	0	0	0	0	0
WEST			20.3	40.5	48	973	1946	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.			35.5	99.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS			19.1	2.4	10	191	24	0	0	0	0	0	0	14	267	34	20	382	49	20
NET EXPOSED WALL			4.3	0.5	502	2134	271	0	0	0	73	310	39	455	1934	246	90	383	49	0
NET EXPOSED BSMT WALL ABOVE GR			3.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG			1.2	0.5	0	0	0	48	59	25	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG			2.6	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR			2.4	0.3	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			3909
SLAB ON GRADE HEAT LOSS					0			0			0			0			0			0
SUBTOTAL HT LOSS					4312			59			452			2425			765			5820
SUB TOTAL HT GAIN						3436			25		207			726			97			565
LEVEL FACTOR / MULTIPLIER					0.30	0.45		0.20	0.30		0.30	0.45		0.30	0.45		0.30	0.45		0.50
AIR CHANGE HEAT LOSS						1956			18			205			1100			347		6014
AIR CHANGE HEAT GAIN							188			1		11			40			5		31
DUCT LOSS						0			0			0			0			0		0
DUCT GAIN						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							780			780		0			0			0		780
TOTAL HT LOSS BTU/H						6268			76			657			3525			1112		11834
TOTAL HT GAIN x 1.3 BTU/H						5726			1049			283			995			133		178

SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES

TYPE: CHERRY 3E

DATE: Aug-22

GFA: 2140

LO# 98651

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 34,255 TOTAL HEAT GAIN 23,049
AIR FLOW RATE CFM 25.98 AIR FLOW RATE CFM 38.61

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

#GOODMAN
GMEC960402BNA 40
FAN SPEED LOW
MEDLOW
MEDIUM 695
MEDIUM HIGH
HIGH 890

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400

DESIGN CFM = 890
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	7	3
R/A	0	0	4	1	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

TEMPERATURE RISE 40 °F

RUN #	1	2	4	5	6	7	8	9	10	13	14	15	16	17	18	19	20	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-3	FLEX	BATH	BED-2	BED-3	MBR	K/L/D	K/L/D	K/L/D	K/L/D	LAUN	PWD	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH.	1.38	0.95	1.12	1.32	1.42	0.77	1.12	1.32	1.38	1.57	1.57	1.57	1.57	0.08	0.66	3.52	1.11	3.94	3.94	3.94
CFM PER RUN HEAT	36	25	29	34	37	20	29	34	36	41	41	41	41	2	17	92	29	102	102	102
RM GAIN MBH.	1.56	1.03	1.71	1.65	1.86	0.35	1.71	1.65	1.56	1.43	1.43	1.43	1.43	1.05	0.28	1.00	0.13	0.60	0.60	0.60
CFM PER RUN COOLING	60	40	66	64	72	13	66	64	60	55	55	55	55	41	11	38	5	23	23	23
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	0.16	0.16	0.16
ACTUAL DUCT LGH.	48	38	58	60	48	40	59	62	46	23	16	35	26	35	35	49	39	30	11	40
EQUIVALENT LENGTH	170	160	140	170	170	120	150	180	150	140	110	110	110	150	90	130	140	110	100	140
TOTAL EFFECTIVE LENGTH	218	198	198	230	218	160	209	242	196	163	126	145	136	185	125	179	179	140	111	180
ADJUSTED PRESSURE	0.08	0.09	0.09	0.07	0.08	0.11	0.08	0.07	0.09	0.11	0.14	0.12	0.13	0.09	0.14	0.09	0.1	0.12	0.15	0.09
ROUND DUCT SIZE	5	4	6	6	6	4	6	6	5	5	5	5	5	4	4	6	4	6	6	6
HEATING VELOCITY (ft/min)	264	287	148	173	189	229	148	173	264	301	301	301	301	23	195	469	333	520	520	520
COOLING VELOCITY (ft/min)	441	459	337	326	367	149	337	326	441	404	404	404	404	470	126	194	57	117	117	117
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10
TRUNK	A	B	D	C	D	D	D	C	B	D	B	A	A	A	D	C	D	A	B	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
1	MBR	1.38	36	1.56	60	0.17	48	170	218	0.08	5	264	441	3X10	A
2	ENS	0.95	25	1.03	40	0.17	38	160	198	0.09	4	287	459	3X10	B
4	BED-2	1.12	29	1.71	66	0.17	58	140	198	0.09	6	148	337	4X10	D
5	BED-3	1.32	34	1.65	64	0.17	60	170	230	0.07	6	173	326	4X10	C
6	FLEX	1.42	37	1.86	72	0.17	48	170	218	0.08	6	189	367	4X10	D
7	BATH	0.77	20	0.35	13	0.17	40	120	160	0.11	4	229	149	3X10	D
8	BED-2	1.12	29	1.71	66	0.17	59	150	209	0.08	6	148	337	4X10	D
9	BED-3	1.32	34	1.65	64	0.17	62	180	242	0.07	6	173	326	4X10	C
10	MBR	1.38	36	1.56	60	0.17	46	150	196	0.09	5	264	441	3X10	B
13	K/L/D	1.57	41	1.43	55	0.17	23	140	163	0.11	5	301	404	3X10	D
14	K/L/D	1.57	41	1.43	55	0.17	16	110	126	0.14	5	301	404	3X10	B
15	K/L/D	1.57	41	1.43	55	0.17	35	110	145	0.12	5	301	404	3X10	A
16	K/L/D	1.57	41	1.43	55	0.17	26	110	136	0.13	5	301	404	3X10	A
17	LAUN	0.08	2	1.05	41	0.17	35	150	185	0.09	4	23	470	3X10	A
18	PWD	0.66	17	0.28	11	0.17	35	90	125	0.14	4	195	126	3X10	D
19	FOY	3.52	92	1.00	38	0.17	49	130	179	0.09	6	469	194	4X10	C
20	MUD	1.11	29	0.13	5	0.17	39	140	179	0.1	4	333	57	3X10	D
21	BAS	3.94	102	0.60	23	0.16	30	110	140	0.12	6	520	117	4X10	A
22	BAS	3.94	102	0.60	23	0.16	11	100	111	0.15	6	520	117	4X10	B
23	BAS	3.94	102	0.60	23	0.16	40	140	180	0.09	6	520	117	4X10	C

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	222	0.08	8	8	X	8	500	TRUNK G	0	0.00	0	0	X	8	0	TRUNK O	0	0.05	0	0	X	8	0	
TRUNK B	426	0.08	10.2	12	X	8	639	TRUNK H	0	0.00	0	0	X	8	0	TRUNK P	0	0.05	0	0	X	8	0	
TRUNK C	262	0.07	8.8	10	X	8	472	TRUNK I	0	0.00	0	0	X	8	0	TRUNK Q	0	0.05	0	0	X	8	0	
TRUNK D	464	0.07	10.9	14	X	8	597	TRUNK J	0	0.00	0	0	X	8	0	TRUNK R	0	0.05	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 S	0	0.05	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	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	890	0.05	15.1	26	X	8	616	
																TRUNK Y	770	0.05	14.3	24	X	8	578	
																TRUNK Z	180	0.05	8.3	8	X	8	405	
																DROP	890	0.05	15.1	24	X	10	534	

RETURN AIR #	1	2	3	4	5										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	115	115	85	95	360	0	0	0	0	0	0	0	0	0	120
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.	82	75	66	70	41	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	225	235	195	150	185	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	307	310	261	220	226	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.05	0.06	0.07	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7	7	6	6	9.9	0	0	0	0	0	0	0	0	0	6
INLET GRILL SIZE	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
INLET GRILL SIZE	14	14	14	14	30	0	0	0	0	0	0	0	0	0	14

TYPE: CHERRY 3E
SITE NAME: BARLASSINA

LO # 98651

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	5	@ 10.6 cfm	53.0	cfm
Table 9.32.3.A.		TOTAL	159.0	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	159	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	95.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE V150H Location: BSMT

63.6 cfm ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
63.6 CFM	72 F	1.08	0.25

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
LAUN	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE V150H

150 cfm high 35 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: August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98651		Model: CHERRY 3E		Date: 2022-08-30																																																								
Builder: GREENPARK HOMES																																																												
Volume Calculation			Air Change & Delta T Data																																																									
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>981</td> <td>9</td> <td>8829</td> </tr> <tr> <td>First</td> <td>981</td> <td>10</td> <td>9810</td> </tr> <tr> <td>Second</td> <td>1159</td> <td>9</td> <td>10431</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>29,070.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>823.2 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	981	9	8829	First	981	10	9810	Second	1159	9	10431	Third	0	9	0	Fourth	0	9	0	Total:			29,070.0 ft³	Total:			823.2 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.319</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.085</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">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>-18</td> <td>40</td> <td>72</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>29</td> <td>5</td> <td>9</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.319	SUMMER NATURAL AIR CHANGE RATE	0.085	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-18	40	72	Summer DTDc	24	29	5	9
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	981	9	8829																																																									
First	981	10	9810																																																									
Second	1159	9	10431																																																									
Third	0	9	0																																																									
Fourth	0	9	0																																																									
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Winter DTDh	22	-18	40	72																																																								
Summer DTDc	24	29	5	9																																																								
5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.319 x 228.66 x 40 °C x 1.2 = 3525 W = 12028 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.085 x 228.66 x 5 °C x 1.2 = 119 W = 405 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 9 °F x 1.08 x 0.25 = 158 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 / HLlevel)																																																								
1	0.5	12,028	5,820	1.033																																																								
2	0.3		7,954	0.454																																																								
3	0.2		8,011	0.300																																																								
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																																																												
				Michael O'Rourke BCIN# 19669																																																								



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& DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION
BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE
OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING
CODE AND ANY OTHER REFERENCED REQUIREMENTS.

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: CHERRY 3E

BUILDER: GREENPARK HOMES

SFQT: 2140

LO# 98651

SITE: BARLASSINA

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

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 (ft ³):	29070.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 62.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	125.0 ft

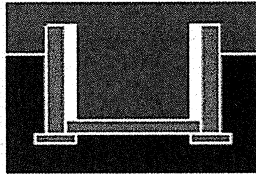
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement Walls Minimum RSI (R)-Value		20 ci	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		0.28	-
Skylights Maximum U-Value		0.49	-
Space Heating Equipment Minimum AFUE		96%	-
HRV/ERV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.8	-

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Cambridge	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.9	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (m):	38.1	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.1	
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):		1145

TYPE: CHERRY 3E
LO# 98651

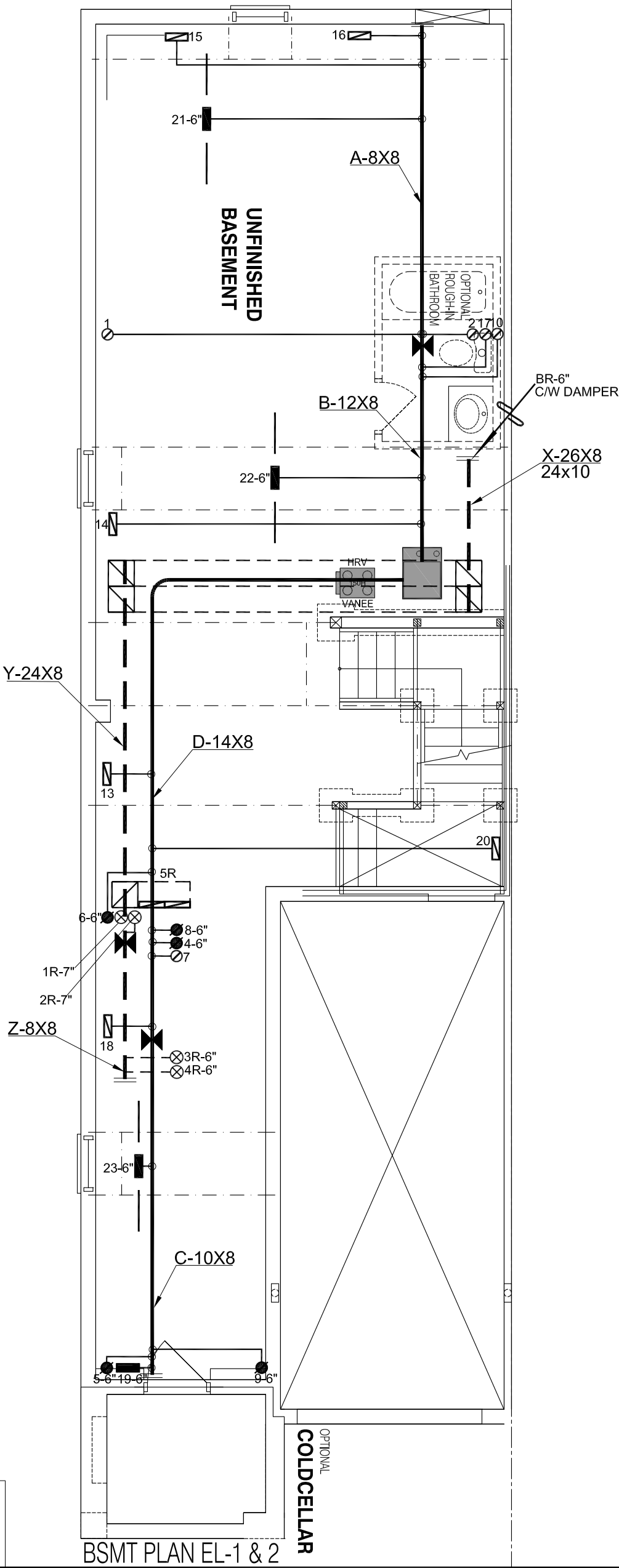
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
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:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	823.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1097.3 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	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.319			
Cooling Air Leakage Rate (ACH/H):	0.085			

TYPE: CHERRY 3E
LO# 98651

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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.

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HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

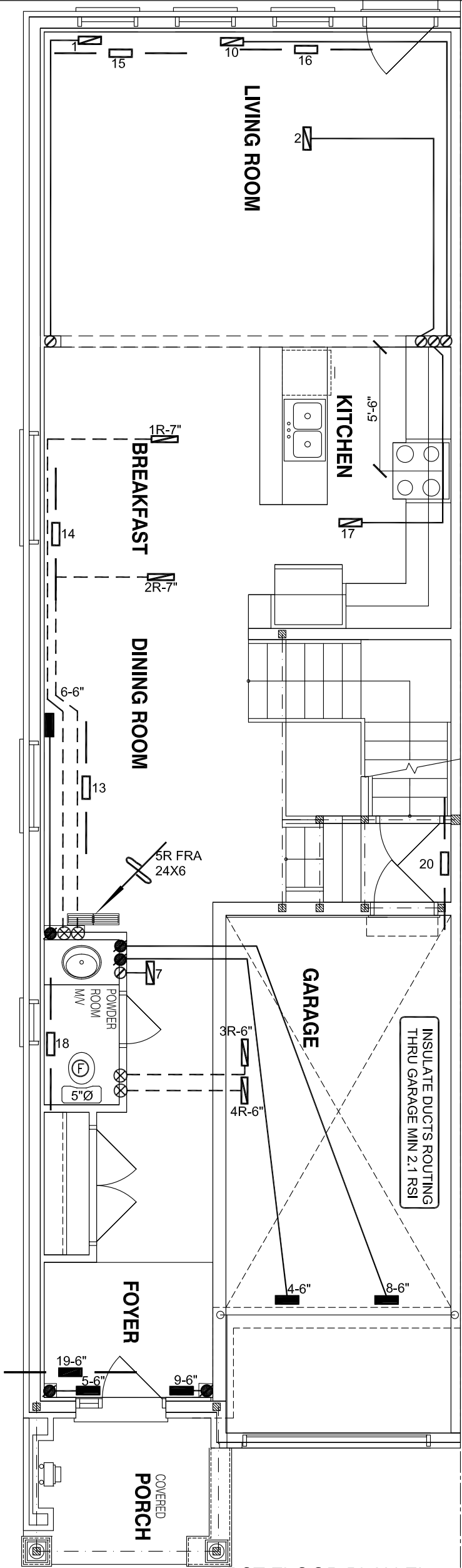
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR 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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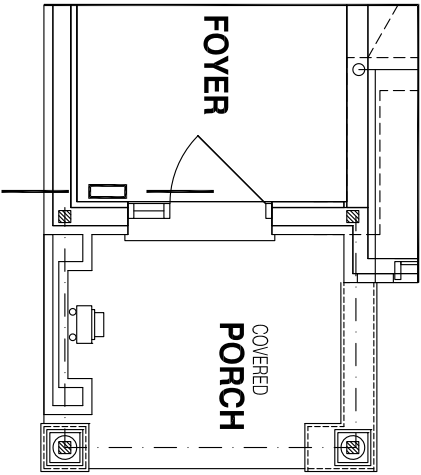
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 35498 BTU/H		# OF RUNS S/A R/A FANS				Sheet Title		
GREENPARK HOMES			UNIT DATA		3RD FLOOR				BASEMENT HEATING LAYOUT		
Project Name			MAKE GOODMAN		2ND FLOOR		10	4	3		
BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960402BNA		1ST FLOOR		7	1	2		
			INPUT 40 MBTU/H		BASEMENT		3	1	0	Date	AUG/2022
		OUTPUT 38.4 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						Scale	3/16" = 1'-0"
Block 119 Units 31 to 36				COOLING 2.0 TONS		BCIN# 19669					
CHERRY 3E 2140 sqft		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.		FAN SPEED 890 cfm @ 0.6" w.c.		LO# 98651					

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.

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FIRST FLOOR PLAN EL-1



FIRST FLOOR PLAN EL-2

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

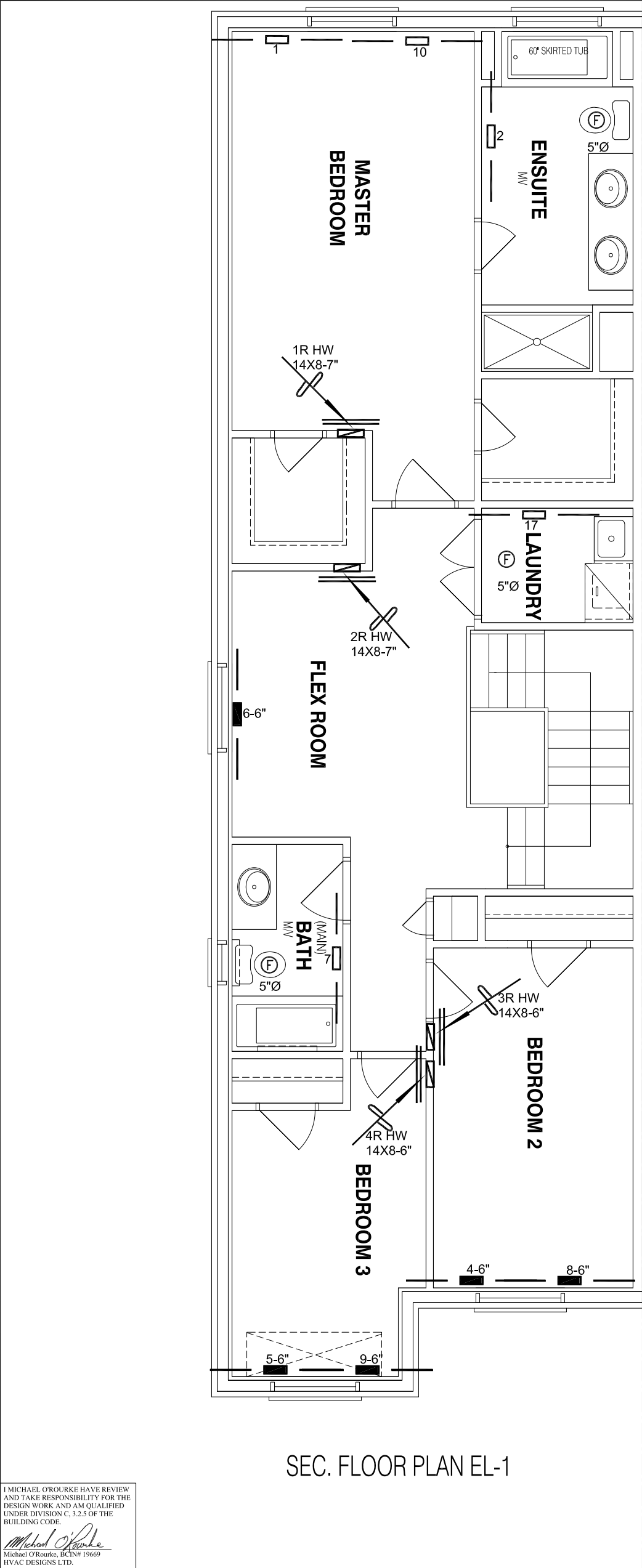
CSA-F280-12

PACKAGE A1

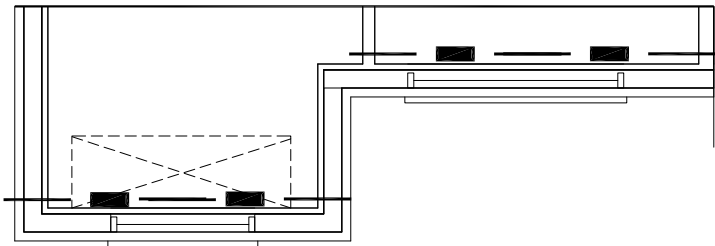
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT		
Project Name			Date	AUG/2022	
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"	
Block 119 Units 31 to 36			BCIN# 19669		
CHERRY 3E	2140 sqft		LO#	98651	



SEC. FLOOR PLAN EL-1



SEC. FLOOR PLAN EL-2

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HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 119 Units 31 to 36			BCIN# 19669	
CHERRY 3E	2140 sqft		LO#	98651