

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS
& 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.

SITE NAME: BARLASSINA										OPT 4 BED										DATE: Jan-23										WINTER NATURAL AIR CHANGE RATE 0.352										HEAT LOSS ΔT °F. 72										CSA-F280-12																			
BUILDER: GREENPARK HOMES										TYPE: GARDEN 2 - WOB										GFA: 2315										LO# 99994										SUMMER NATURAL AIR CHANGE RATE 0.096										HEAT GAIN ΔT °F. 9										SB-12 PACKAGE A									
ROOM USE				MBR				ENS				BED-2				BED-3				MEDIA				BATH																																													
EXP. WALL				36				25				29				37				20				11																																													
CLG. HT.				9				9				9				9				9				9																																													
FACTORS																																																																					
GRS.WALL AREA		LOSS GAIN		324				225				261				333				180				99																																													
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	0	0		0	0	0		0	0	0																																			
EAST		20.3	40.5	0	0	0		0	0	0		30	608	1216		36	730	1460		0	0	0		0	0	0		0	0	0		0	0	0																																			
SOUTH		20.3	23.9	0	0	0		8	162	191		0	0	0		0	0	0		26	527	621		0	0	0		0	0	0		0	0	0																																			
WEST		20.3	40.5	24	487	973		8	162	324		0	0	0		0	0	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	0	0		0	0	0		0	0	0																																			
DOORS		19.1	2.4	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0																																			
NET EXPOSED WALL		4.3	0.5	300	1275	162		209	889	113		231	982	125		297	1263	160		154	655	83		99	421	53																																											
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	0	0		0	0	0		0	0	0																																			
EXPOSED CLG		1.2	0.5	294	359	155		194	237	102		220	269	116		198	242	104		170	208	90		145	177	76																																											
NO ATTIC EXPOSED CLG		2.6	1.1	0	0	0		0	0	0		15	39	17		15	39	17		0	0	0		0	0	0		0	0	0		0	0	0																																			
EXPOSED FLOOR		2.4	0.3	0	0	0		0	0	0		247	600	76		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																																													
SLAB ON GRADE HEAT LOSS				0				0				0				0				0				0																																													
SUBTOTAL HT LOSS				2121				1450				2499				2274				1390				598																																													
SUB TOTAL HT GAIN				1290				731				1550				1741				794				130																																													
LEVEL FACTOR / MULTIPLIER		0.20	0.27					0.20	0.27			0.20	0.27			0.20	0.27			0.20	0.27			0.20	0.27																																												
AIR CHANGE HEAT LOSS				570				390				671				611				373				161																																													
AIR CHANGE HEAT GAIN				54				31				65				73				33				5																																													
DUCT LOSS				0				0				317				0				0				0																																													
DUCT GAIN				0				0				254				0				0				0																																													
HEAT GAIN PEOPLE		240		2	480		0		0		1	240		1	240		0		0		0		0		0																																												
HEAT GAIN APPLIANCES/LIGHTS				685				0				685				685				685				0																																													
TOTAL HT LOSS BTU/H				2691				1840				3487				2885				1763				759																																													
TOTAL HT GAIN x 1.3 BTU/H				3263				990				3634				3562				1967				176																																													

ROOM USE						K/B/L/D				LAUN				W/R				FOY										WOB				BAS						
EXP. WALL						86				19				6				49										34				126						
CLG. HT.						10				11				10				11										8				8						
FACTORS																																						
GRS.WALL AREA	LOSS	GAIN				860				209				60				539										272				630						
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	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	30	608	1216	0	0	0	0	0	0	0	0	0	0	0	0							
SOUTH	20.3	23.9	39	791	932	0	0	0	0	0	0	7	142	167	0	0	0	0	0	0	0	0	0	0	0	0	0	10	203	239	0							
WEST	20.3	40.5	64	1297	2595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	1297	2595	0	0							
SKYLT.	35.5	99.8	0	0	0	0	0	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	19.1	2.4	0	0	0	0	0	0	21	401	51	0	0	0	0	18	344	44	0	0	0	0	0	0	0	0	0	21	401	51	0							
NET EXPOSED WALL	4.3	0.5	757	3218	409	188	799	102	53	225	29	491	2087	265	0	0	0	0	0	0	0	0	0	0	0	0	208	884	112	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0							
EXPOSED CLG	1.2	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	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0							
BASEMENT/CRAWL HEAT LOSS						0				0				0				0																				
SLAB ON GRADE HEAT LOSS						0				0				0				0																				
SUBTOTAL HT LOSS						5306				1200				367				3039										2556				3828						
SUB TOTAL HT GAIN							3936					153				196					1525							2707					455					
LEVEL FACTOR / MULTIPLIER	0.30	0.42				0.30	0.42				0.30	0.42				0.30	0.42													0.50	1.09							
AIR CHANGE HEAT LOSS						2229				504				154				1277													6941							
AIR CHANGE HEAT GAIN							166					6				8					64											133						
DUCT LOSS						0				0				0				0														0						
DUCT GAIN							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	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
HEAT GAIN APPLIANCES/LIGHTS							685					685				0					0											685						
TOTAL HT LOSS BTU/H						7535				1705				521				4316										2556				10769						
TOTAL HT GAIN x 1.3 BTU/H						6223				1098				265				2066										3519				1653						

SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES

OPT 4 BED
TYPE: GARDEN 2 - WOB

DATE: Jan-23

GFA: 2315 LO# 99994

HEATING CFM 928 COOLING CFM 928
TOTAL HEAT LOSS 40,828 TOTAL HEAT GAIN 28,417
AIR FLOW RATE CFM 22.73 AIR FLOW RATE CFM 32.66

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
FAN SPEED LOW

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	6	4
R/A	0	0	5	1	1

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

MEDLOW 928
MEDIUM 1017
MEDIUM HIGH 1131
HIGH 1131

DESIGN CFM = 928
CFM @ .6" E.S.P.

TEMPERATURE RISE 57 °F

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	4	5	6	7	8	9	10	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	MEDIA	BATH	BED-2	BED-3	MBR	K/B/L/D	K/B/L/D	K/B/L/D	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.35	1.84	1.74	1.44	1.76	0.76	1.74	1.44	1.35	2.51	2.51	2.51	1.70	0.52	4.32	3.33	3.33	3.33	3.33
CFM PER RUN HEAT	31	42	40	33	40	17	40	33	31	57	57	57	39	12	98	76	76	76	76
RM GAIN MBH.	1.63	0.99	1.82	1.78	1.97	0.18	1.82	1.78	1.63	2.07	2.07	2.07	1.10	0.27	2.07	1.29	1.29	1.29	1.29
CFM PER RUN COOLING	53	32	59	58	64	6	59	58	53	68	68	68	36	9	67	42	42	42	42
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
ACTUAL DUCT LGH.	39	56	67	59	34	14	69	65	44	42	35	23	9	39	40	31	19	28	35
EQUIVALENT LENGTH	160	170	170	140	120	130	160	140	160	100	140	120	120	130	90	150	160	80	130
TOTAL EFFECTIVE LENGTH	199	226	237	199	154	144	229	205	204	142	175	143	129	169	130	181	179	108	165
ADJUSTED PRESSURE	0.09	0.08	0.07	0.09	0.11	0.12	0.08	0.08	0.08	0.12	0.1	0.12	0.13	0.1	0.12	0.1	0.1	0.16	0.1
ROUND DUCT SIZE	5	5	5	5	6	4	5	5	5	5	5	5	4	4	6	5	5	5	5
HEATING VELOCITY (ft/min)	228	308	294	242	204	195	294	242	228	419	419	419	447	138	500	558	558	558	558
COOLING VELOCITY (ft/min)	389	235	433	426	326	69	433	426	389	499	499	499	413	103	342	308	308	308	308
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10
TRUNK	C	B	A	A	B	A	A	A	C	B	B	B	C	A	A	A	A	C	B

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	1.35	31	1.63	53	0.17	39	160	199	0.09	5	228	389	3X10	C
2	ENS	1.84	42	0.99	32	0.17	56	170	226	0.08	5	308	235	3X10	B
4	BED-2	1.74	40	1.82	59	0.17	67	170	237	0.07	5	294	433	3X10	A
5	BED-3	1.44	33	1.78	58	0.17	59	140	199	0.09	5	242	426	3X10	A
6	MEDIA	1.76	40	1.97	64	0.17	34	120	154	0.11	6	204	326	4X10	B
7	BATH	0.76	17	0.18	6	0.17	14	130	144	0.12	4	195	69	3X10	A
8	BED-2	1.74	40	1.82	59	0.17	69	160	229	0.08	5	294	433	3X10	A
9	BED-3	1.44	33	1.78	58	0.17	65	140	205	0.08	5	242	426	3X10	A
10	MBR	1.35	31	1.63	53	0.17	44	160	204	0.08	5	228	389	3X10	C
14	K/B/L/D	2.51	57	2.07	68	0.17	42	100	142	0.12	5	419	499	3X10	B
15	K/B/L/D	2.51	57	2.07	68	0.17	35	140	175	0.1	5	419	499	3X10	B
16	K/B/L/D	2.51	57	2.07	68	0.17	23	120	143	0.12	5	419	499	3X10	B
17	LAUN	1.70	39	1.10	36	0.17	9	120	129	0.13	4	447	413	3X10	C
18	W/R	0.52	12	0.27	9	0.17	39	130	169	0.1	4	138	103	3X10	A
19	FOY	4.32	98	2.07	67	0.16	40	90	130	0.12	6	500	342	4X10	A
21	BAS	3.33	76	1.29	42	0.17	31	150	181	0.1	5	558	308	3X10	A
22	BAS	3.33	76	1.29	42	0.17	19	160	179	0.1	5	558	308	3X10	A
23	BAS	3.33	76	1.29	42	0.17	28	80	108	0.16	5	558	308	3X10	C
24	BAS	3.33	76	1.29	42	0.17	35	130	165	0.1	5	558	308	3X10	B

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	408	0.07	10.4	12	x	8	612	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.06	0	0	x	8	0			
TRUNK B	329	0.08	9.2	10	x	8	592	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.06	0	0	x	8	0			
TRUNK C	914	0.07	14	22	x	8	748	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.06	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 R	0	0.06	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	0.06	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	0.06	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			
RETURN AIR #	1	2	3	4	5	6								BR		TRUNK X	928	0.06	14.7	26	x	8	642			
AIR VOLUME	95	84	90	90	322	95	0	0	0	0	0	0	0	0		TRUNK Y	359	0.06	10.3	12	x	8	539			
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		TRUNK Z	185	0.06	8	8	x	8	416			
ACTUAL DUCT LGH.	57	66	68	55	17	52	1	1	1	1	1	1	1	1		DROP	928	0.06	14.7	24	x	10	557			
EQUIVALENT LENGTH	155	170	165	180	140	175	0	0	0	0	0	0	0	0												
TOTAL EFFECTIVE LH	212	236	233	235	157	227	1	1	1	1	1	1	1	1												
ADJUSTED PRESSURE	0.07	0.06	0.06	0.06	0.09	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80												
ROUND DUCT SIZE	6	6	6.1	6.1	8.9	6	0	0	0	0	0	0	0	0												
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0												
	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0												

TYPE: GARDEN 2 - WOB
SITE NAME: BARLASSINA

LO # 99994
OPT 4 BED

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 79.5	cfm
Required Supplemental Capacity	95.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE V150H Location: BSMT

79.5 ~~63.6~~ cfm ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
63.6 CFM	X 72 F	X 1.08	X 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
W/R	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 @ 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: January-23

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 99994	Model: GARDEN 2 - WOB	Builder: GREENPARK HOMES	Date: 1/17/2023																																																									
Volume Calculation		Air Change & Delta T Data																																																										
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$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.352 x 239.21 x 40 °C x 1.2 = 4069 W = 13882 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.096 x 239.21 x 5 °C x 1.2 = 141 W = 482 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)																																																												
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												

Michael O'Rourke
BCIN# 19669



HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	GARDEN 2 - WOB	OPT 4 BED	BUILDER:	GREENPARK HOMES
SFQT:	2315	LO#	99994	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:	DETACHED	# 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):	30411.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.42	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.0 ft
LENGTH: 56.0 ft	WIDTH: 24.0 ft	EXPOSED PERIMETER:	126.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	34.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package A1	
	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	-

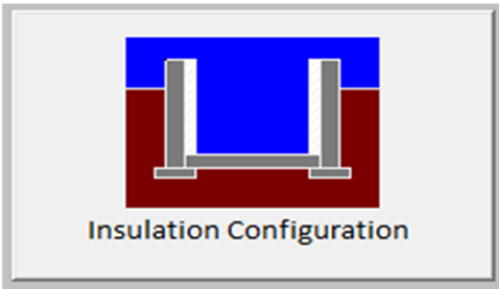
INDIVIDUAL BCIN: 19669

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):	4.6	 Insulation Configuration
Floor Width (m):	7.3	
Exposed Perimeter (m):	38.4	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.24	
Window Area (m ²):	0.9	
Door Area (m ²):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		565

TYPE: GARDEN 2 - WOB
LO# 99994

OPT 4 BED



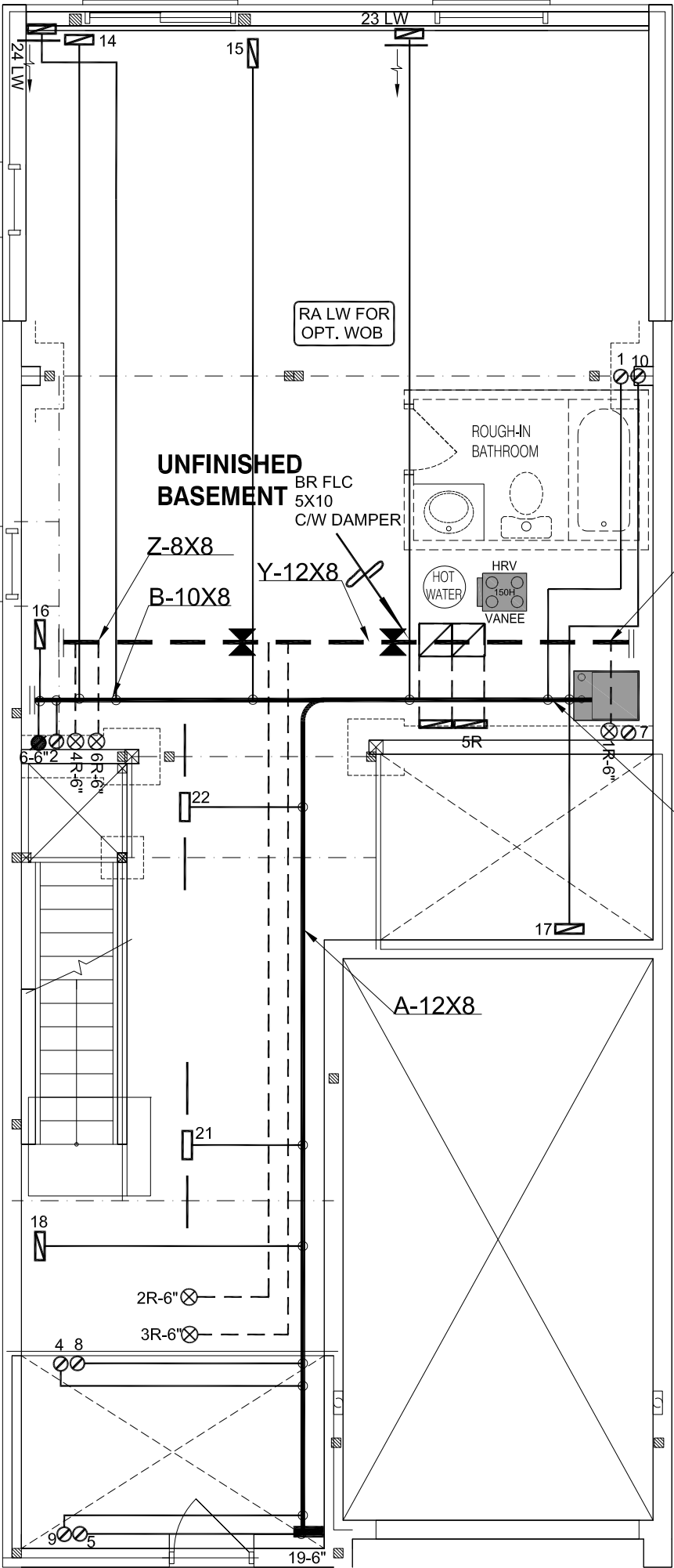
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

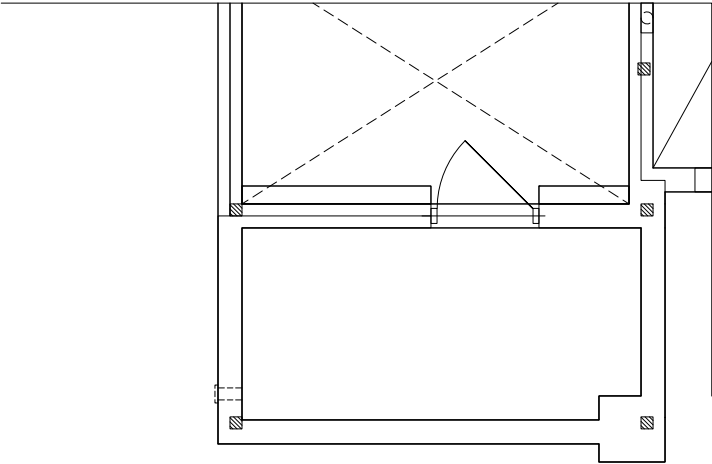
Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	8.23			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	861.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1147.9 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):	0.352			
Cooling Air Leakage Rate (ACH/H):	0.096			

TYPE: GARDEN 2 - WOB
LO# 99994

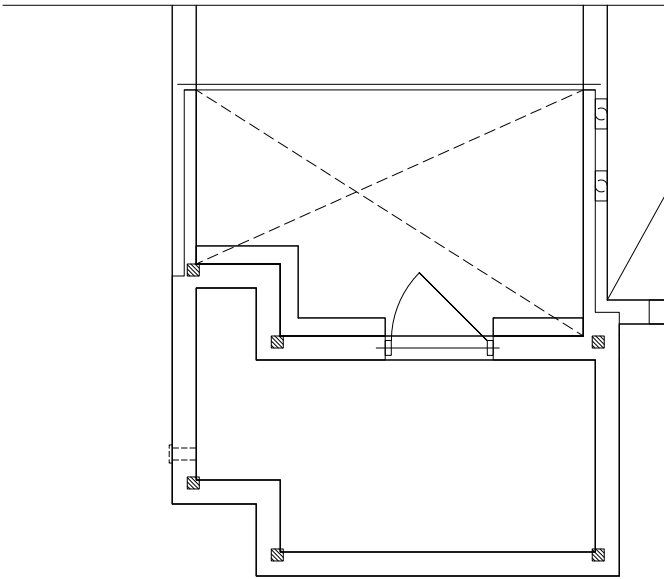
OPT 4 BED



BASEMENT PLAN EL-1



BASEMENT PLAN EL-2



BASEMENT PLAN EL-3

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.

CSA-F280-12

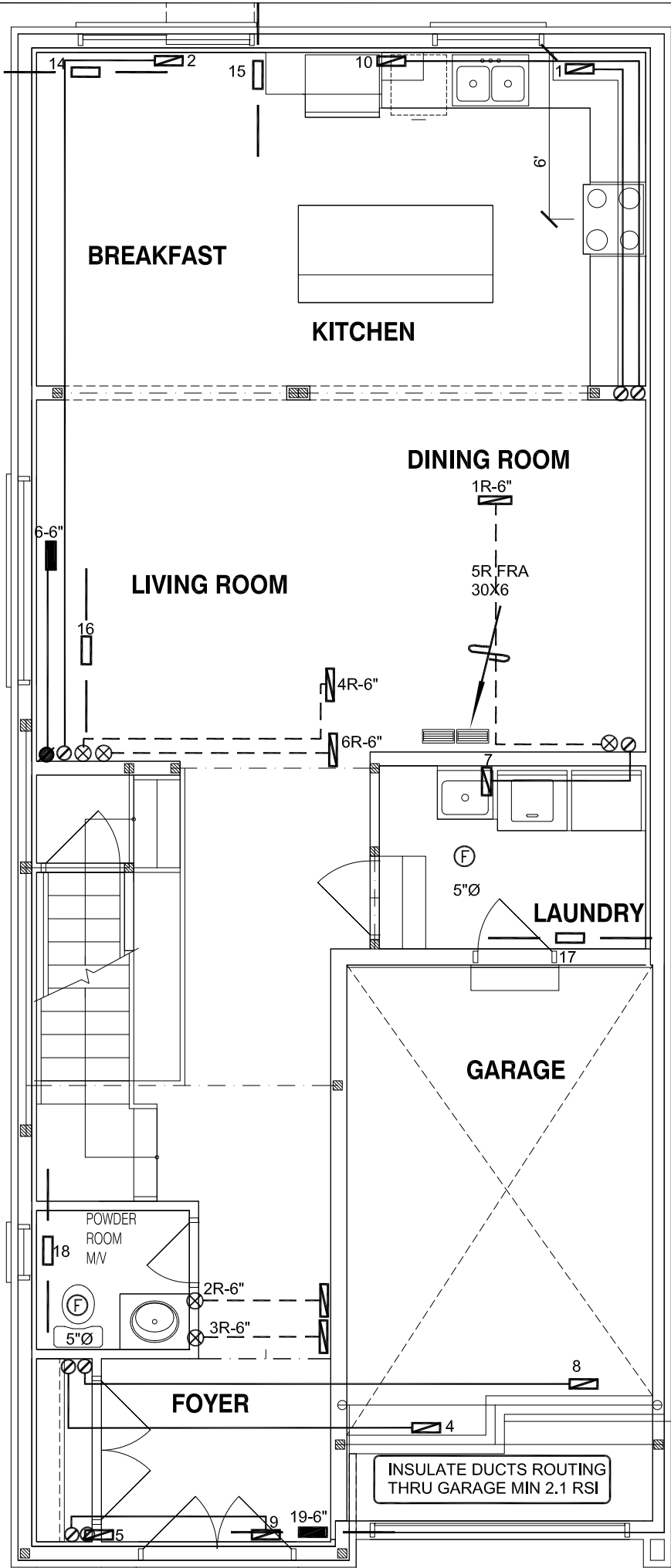
WOB

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.		
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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@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 42072 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title	
GREENPARK HOMES			MAKE GOODMAN		3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960603BNA		2ND FLOOR	9	5	2		
			INPUT 60	MBTU/H	1ST FLOOR	6	1	3	Date JAN/2023	
			OUTPUT 57.6	MBTU/H	BASEMENT	4	1	0	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"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				BCIN# 19669		
OPT 4 BED GARDEN 2 WOB 2315 sqft		FAN SPEED 928	cfm @ 0.6" w.c.					LO# 99994		



FIRST FLOOR PLAN EL-1

FIRST FLOOR PLAN EL-3

FIRST FLOOR PLAN EL-2

PARTIAL FIRST LAYOUT
FOR DECK CONDITION EL-1 (EL-2,EL-3 SIMIALR)

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.

CSA-F280-12

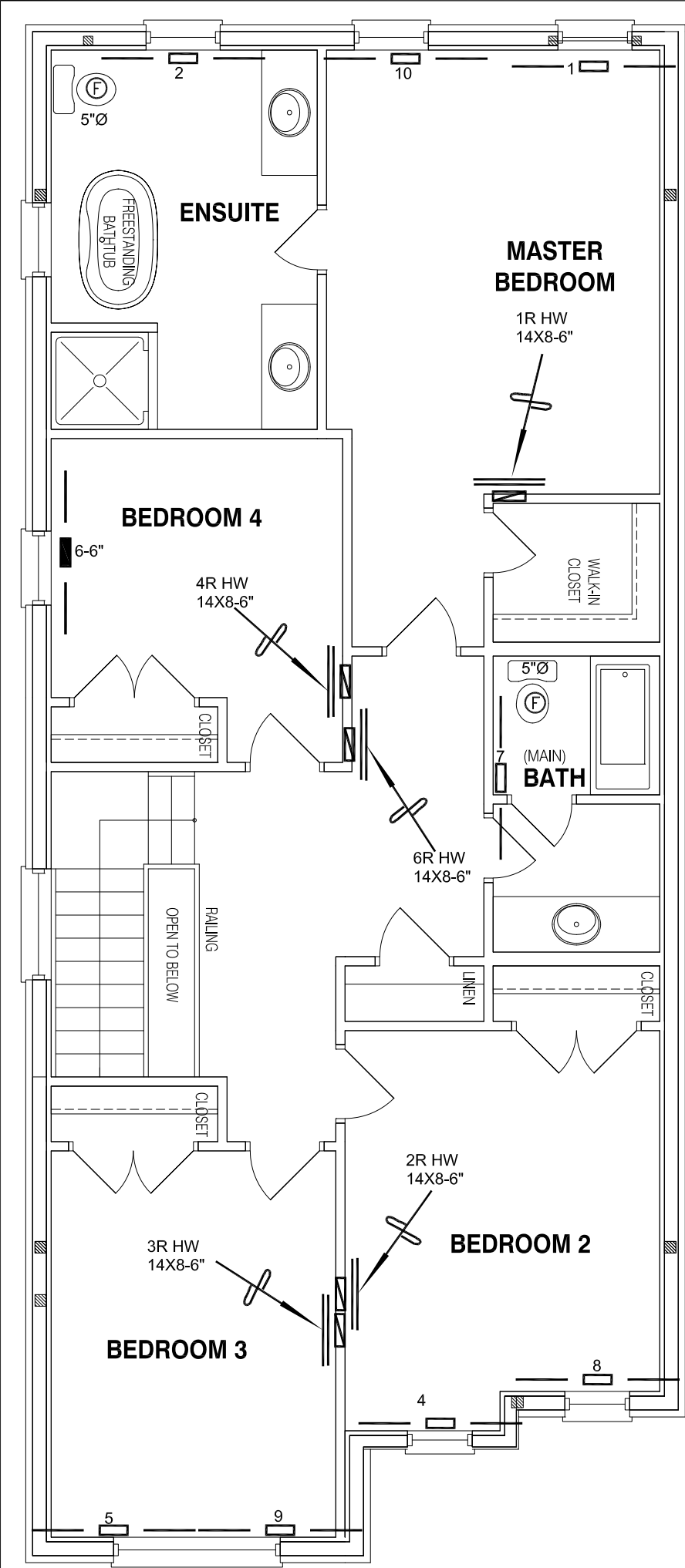
WOB

PACKAGE A1

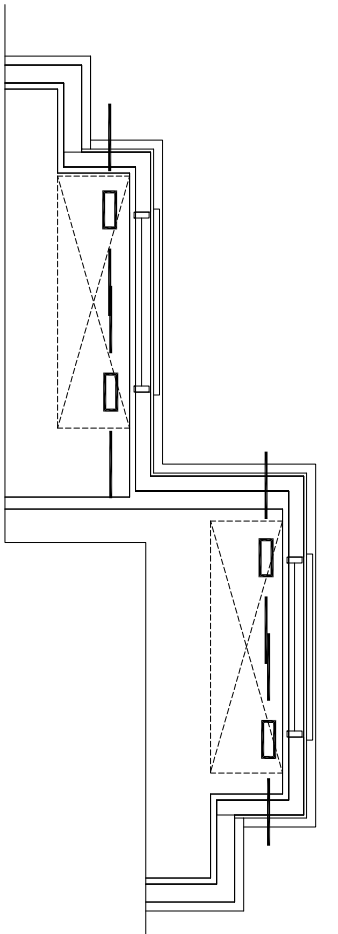
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2023
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
OPT 4 BED GARDEN 2 WOB 2315 sqft			BCIN# 19669	
			LO#	99994



SECOND FLOOR PLAN EL-2



SECOND FLOOR PLAN EL-3

CSA-F280-12

WOB

PACKAGE A1

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

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Project Name			Date	JAN/2023
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
OPT 4 BED GARDEN 2 WOB 2315 sqft			BCIN# 19669	
			LO#	99994