

TRUE COPY
OF PERMIT PLANS

Oct 30 2023

PER: 

SITE NAME: ZADORRA ESTATES INC

BUILDER: GREENPARK HOMES

TYPE: ROSE 6

GFA: 3175

DATE: Jul-23

LO# 101738

WINTER NATURAL AIR CHANGE RATE 0.342

SUMMER NATURAL AIR CHANGE RATE 0.094

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	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-3	FLEX	ENS-4	WIC-2	
			35	27	5	25	36	17	9	8	5	8	12	
			9	9	9	9	9	9	9	9	9	9	10	
FACTORS														
GRS.WALL AREA	LOSS	GAIN	319	246	46	228	328	155	82	73	46	73	121	
GLAZING	LOSS	GAIN												
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	8	166	124	0
EAST	20.8	41.0	0	0	0	44	914	1806	47	976	1929	0	0	16
SOUTH	20.8	24.4	0	0	0	0	0	0	8	166	195	24	499	585
WEST	20.8	41.0	22	457	903	26	540	1067	0	0	0	0	0	0
SKYL.T.	36.4	100.7	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	19.6	2.9	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	297	1292	192	220	957	142	46	198	29	184	800	119
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	350	439	195	202	253	113	50	63	28	210	263	117
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	210	523	78	8	20	3
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			2187		1751	261	2500	2706	1431	578	759	686	502	791
SUB TOTAL HT GAIN				1290	1322	57	2119	2462	832	108	629	265	244	725
LEVEL FACTOR / MULTIPLIER	0.20	0.28		0.20	0.28	0.20	0.28	0.20	0.28	0.20	0.28	0.20	0.28	0.30
AIR CHANGE HEAT LOSS			608		486	72	695	752	398	161	211	191	140	386
AIR CHANGE HEAT GAIN			73		75	3	120	140	47	6	36	15	14	41
DUCT LOSS			0		0		319	346	0	74	97	88	0	0
DUCT GAIN			0		0		306	342	0	11	66	28	0	0
HEAT GAIN PEOPLE	240	2	480	0	0	1	240	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			583		0		583	583	0	0	0	0	0	0
TOTAL HT LOSS BTU/H			2795		2237	333	3514	3804	1829	812	1067	964	642	1177
TOTAL HT GAIN x 1.3 BTU/H			3153		1816	79	4379	4896	2212	163	950	401	336	996

ROOM USE	EXP. WALL	CLG. HT.	DN/LV	H-OFF	KT/BF	FAM	LAUN	PWD	FOY	MUD			WOD	BAS
			21	24	40	31	6	11	35	5			41	178
			10	10	10	10	9	10	10	10			9	9
FACTORS														
GRS.WALL AREA	LOSS	GAIN	212	242	404	313	55	111	354	51			349	1102
GLAZING	LOSS	GAIN												
NORTH	20.8	15.5	0	0	0	11	229	170	0	0	0	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0	22	457	903	0	0	0
SOUTH	20.8	24.4	30	623	732	0	0	0	0	0	0	0	0	0
WEST	20.8	41.0	0	0	0	62	1288	2545	30	623	1231	0	0	0
SKYL.T.	36.4	100.7	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	19.6	2.9	0	0	0	0	0	0	22	431	64	21	411	61
NET EXPOSED WALL	4.4	0.6	182	793	118	220	960	142	331	1442	214	283	1233	183
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	66	83	37	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	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
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1417		1417	2959	1857	468	599	2236	540		864	7982
SUB TOTAL HT GAIN				849	483	2929	1414	205	238	1167	80		128	421
LEVEL FACTOR / MULTIPLIER	0.30	0.49		0.30	0.49	0.30	0.49	0.30	0.49	0.30	0.49		0.30	0.49
AIR CHANGE HEAT LOSS			691		691	1443	906	130	292	1091	263			9607
AIR CHANGE HEAT GAIN			48		27	166	80	12	14	66	5			31
DUCT LOSS			0		0	0	0	0	0	0	0			0
DUCT GAIN			0		0	0	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			583		583	583	583	583	0	0	0		0	583
TOTAL HT LOSS BTU/H			2108		2109	4402	2763	599	891	3327	803		864	17589
TOTAL HT GAIN x 1.3 BTU/H			1924		1420	4781	2700	1040	327	1603	110		167	1346

TOTAL HEAT GAIN BTU/H:

35032

TONS: 2.92

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 54628

TOTAL COMBINED HEAT LOSS BTU/H: 56221



INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

HEATING CFM 1122	COOLING CFM 1122	furnace pressure 0.6	DATE: Jul-23	GFA: 3175	LO# 101738	#GOODMAN	AFUE = 96 %
TOTAL HEAT LOSS 54,628	TOTAL HEAT GAIN 34,796	furnace filter 0.05				GMCC960803BNA 80	INPUT (BTU/H) = 80,000
AIR FLOW RATE CFM 20.54	AIR FLOW RATE CFM 32.25	a/c coil pressure 0.2				FAN SPEED LOW	OUTPUT (BTU/H) = 76,800
		available pressure for s/a & r/a 0.35				MEDLOW	DESIGN CFM = 1122
		plenum pressure s/a 0.18	r/a pressure 0.17			MEDIUM	CFM @ .6" E.S.P.
		max s/a dif press. loss 0.01	r/a grille press. Loss 0.02			MEDIUM HIGH 1005	
		min adjusted pressure s/a 0.17	adjusted pressure r/a 0.15			HIGH 1122	TEMPERATURE RISE <u>63</u> °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	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	ENS-2	ENS-3	FLEX	MBR	ENS-4	DN/LV	H-OFF	KT/BF	KT/BF	FAM	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.40	1.12	0.33	1.76	1.90	1.83	0.81	1.07	0.96	1.40	0.64	2.11	2.11	2.20	2.20	1.38	0.60	0.89	3.33	0.80	3.08	3.08	3.08	3.08
CFM PER RUN HEAT	29	23	7	36	39	38	17	22	20	29	13	43	43	45	45	28	12	18	68	16	63	63	63	63
RM GAIN MBH.	1.58	0.91	0.08	2.19	2.45	2.21	0.16	0.95	0.40	1.58	0.34	1.92	1.42	2.39	2.39	1.35	1.04	0.33	1.60	0.11	0.25	0.25	0.25	0.25
CFM PER RUN COOLING	51	29	3	71	79	71	5	31	13	51	11	62	46	77	77	44	34	11	52	4	8	8	8	8
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	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	35	55	25	46	61	44	44	46	33	46	34	19	17	24	32	35	29	39	38	21	23	30	33	5
EQUIVALENT LENGTH	150	190	180	130	160	200	150	120	190	180	200	100	170	120	140	100	180	150	100	130	150	120	140	80
TOTAL EFFECTIVE LENGTH	185	245	205	176	221	244	194	166	223	226	234	119	187	144	172	135	209	189	138	151	173	150	173	85
ADJUSTED PRESSURE	0.09	0.07	0.08	0.1	0.08	0.07	0.09	0.1	0.08	0.08	0.07	0.14	0.09	0.12	0.1	0.13	0.08	0.09	0.12	0.11	0.1	0.11	0.1	0.2
ROUND DUCT SIZE	5	4	4	5	6	6	4	4	4	5	4	5	4	5	5	4	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	213	264	80	264	199	194	195	252	229	213	149	316	493	330	330	321	138	207	499	184	463	463	463	463
COOLING VELOCITY (ft/min)	374	333	34	521	403	362	57	356	149	374	126	455	528	565	565	505	390	126	382	46	59	59	59	59
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	C	E	D	B	E	E	C	A	B	C	C	A	A	B	C	D	D	E	A	B	B	C

RUN #	25	26	27	28	29	30	31
ROOM NAME	BAS	BED-2	BED-3	ENS	FAM	WIC-2	BAS
RM LOSS MBH.	3.08	1.76	1.90	1.12	1.38	1.18	3.08
CFM PER RUN HEAT	63	36	39	23	28	24	63
RM GAIN MBH.	0.25	2.19	2.45	0.91	1.35	1.00	0.25
CFM PER RUN COOLING	8	71	79	29	44	32	8
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	15	50	55	49	26	46	40
EQUIVALENT LENGTH	90	140	180	160	160	130	140
TOTAL EFFECTIVE LENGTH	105	190	235	209	186	176	180
ADJUSTED PRESSURE	0.16	0.09	0.07	0.08	0.09	0.1	0.1
ROUND DUCT SIZE	5	5	6	4	4	4	5
HEATING VELOCITY (ft/min)	463	264	199	264	321	275	463
COOLING VELOCITY (ft/min)	59	521	403	333	505	367	59
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10
TRUNK	C	E	D	B	A	D	D

SUPPLY AIR TRUNK SIZE								RETURN 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	239	0.08	8.2	8	x	8	538	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	490	0.07	11.1	14	x	8	630	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	741	0.07	13	20	x	8	667	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	251	0.07	8.6	10	x	8	452	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	378	0.07	10.1	14	x	8	486	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 #	1	2	3	4	5	6	7	BR							
AIR VOLUME	115	85	85	85	105	363	95	0	0	0	0	0	0	0	189
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.	28	54	75	48	48	30	14	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	175	235	240	195	215	185	135	0	0	0	0	0	0	0	220
TOTAL EFFECTIVE LH	203	289	315	243	263	215	149	1	1	1	1	1	1	1	234
ADJUSTED PRESSURE	0.07	0.05	0.05	0.06	0.06	0.07	0.10	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.06
ROUND DUCT SIZE	6.5	6	6	6	6.5	9.9	5.5	0	0	0	0	0	0	0	8
INLET GRILL SIZE	8	8	8	8	8	8	8	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	14	30	14	0	0	0	0	0	0	0	24

LO # 101738

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	<u>2</u> @ 21.2 cfm <u>42.4</u> cfm	
Other Bedrooms	<u>3</u> @ 10.6 cfm <u>31.8</u> cfm	
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm <u>63.6</u> cfm	
Other Rooms	<u>6</u> @ 10.6 cfm <u>63.6</u> cfm	
Table 9.32.3.A.	TOTAL <u>201.4</u> 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	<u>201.4</u> cfm	
Less Principal Ventil. Capacity	<u>79.5</u> cfm	
Required Supplemental Capacity	<u>121.9</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>79.5</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 74 F	X 1.08	X 0.25

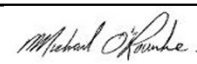
SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H		
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % 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:	
HRAI #	001820
Date:	July-23



MHP 23030

375 Finlay Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																		
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																		
LO#: 101738		Model: ROSE 6		Builder: GREENPARK HOMES																																																														
				Date: 2023-07-06																																																														
Volume Calculation			Air Change & Delta T Data																																																															
<table border="1"><thead><tr><th colspan="4">House Volume</th></tr><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>1399</td><td>9</td><td>11891.5</td></tr><tr><td>First</td><td>1399</td><td>10</td><td>14129.9</td></tr><tr><td>Second</td><td>1789</td><td>9</td><td>16279.9</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="2"></td><td>Total:</td><td>42,301.3 ft³</td></tr><tr><td colspan="2"></td><td>Total:</td><td>1197.8 m³</td></tr></tbody></table>			House Volume				Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1399	9	11891.5	First	1399	10	14129.9	Second	1789	9	16279.9	Third	0	9	0	Fourth	0	9	0			Total:	42,301.3 ft³			Total:	1197.8 m³	<table border="1"><thead><tr><th colspan="2">WINTER NATURAL AIR CHANGE RATE</th><th>0.342</th></tr><tr><th colspan="2">SUMMER NATURAL AIR CHANGE RATE</th><th>0.094</th></tr></thead></table> <table border="1"><thead><tr><th colspan="5">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></thead><tbody><tr><td>Winter DTDh</td><td>22</td><td>-19</td><td>41</td><td>74</td></tr><tr><td>Summer DTDc</td><td>24</td><td>30</td><td>6</td><td>11</td></tr></tbody></table>		WINTER NATURAL AIR CHANGE RATE		0.342	SUMMER NATURAL AIR CHANGE RATE		0.094	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
House Volume																																																																		
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																															
Bsmt	1399	9	11891.5																																																															
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Second	1789	9	16279.9																																																															
Third	0	9	0																																																															
Fourth	0	9	0																																																															
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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																																																															
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.342 x 332.73 x 41 °C x 1.2 = 5631 W = 19214 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.094 x 332.73 x 6 °C x 1.2 = 230 W = 783 Btu/h																																																															
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																															
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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 / HL _{clevel})																																																														
1	0.5	19,214	8,846	1.086																																																														
2	0.3		11,815	0.488																																																														
3	0.2		13,829	0.278																																																														
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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MHP 23030

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: ROSE 6

BUILDER: GREENPARK HOMES

SFQT: 3175

LO# 101738

SITE: ZADORRA ESTATES INC

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
		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 (ft ³):	42301.3	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.5 ft
LENGTH: 58.0 ft	WIDTH: 31.0 ft	EXPOSED PERIMETER:	178.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component

Compliance Package A1

Nominal Min. Eff.

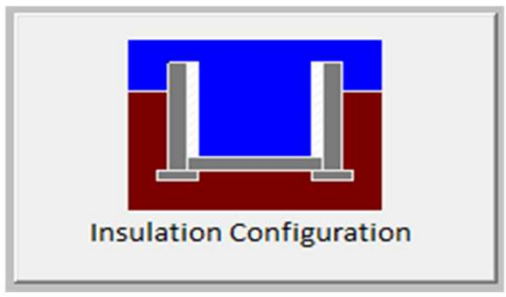
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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:	Oshawa	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	17.7	 Insulation Configuration
Floor Width (m):	9.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.6	
Depth Below Grade (m):	1.68	
Window Area (m ²):	0.6	
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):		1759

TYPE: ROSE 6
 LO# 101738

[Signature]



MHP 23030 HVA Design Ltd.
 375 Finley Ave, Suite 202
 Ajax ON, L1S 2E2
 905-619-2300

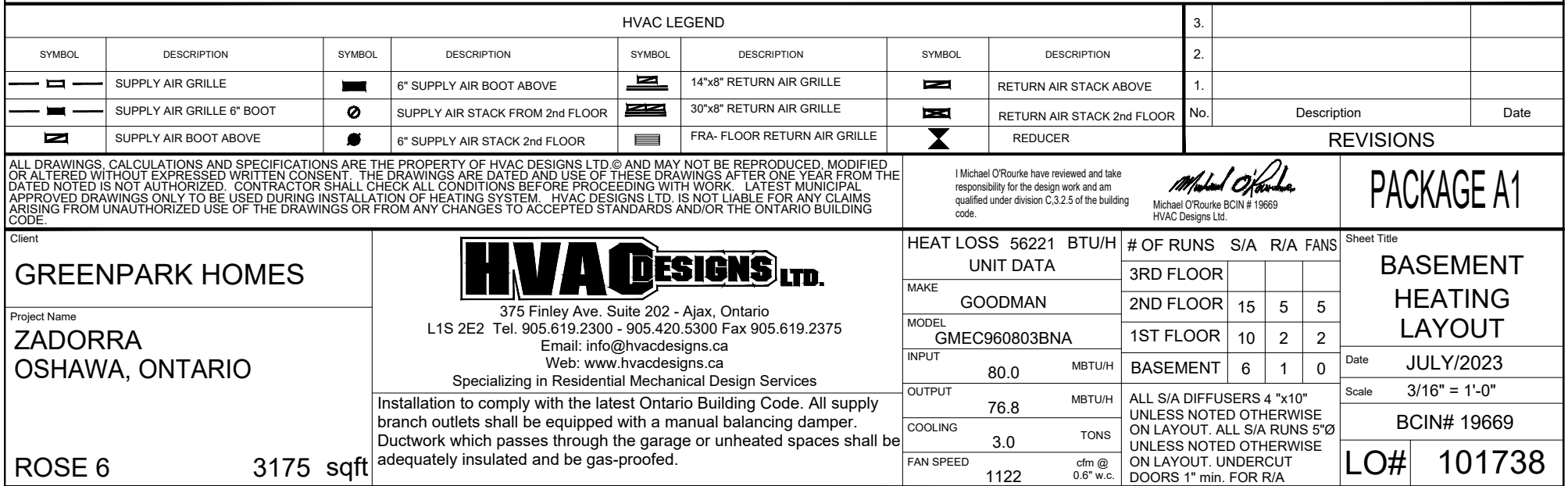
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

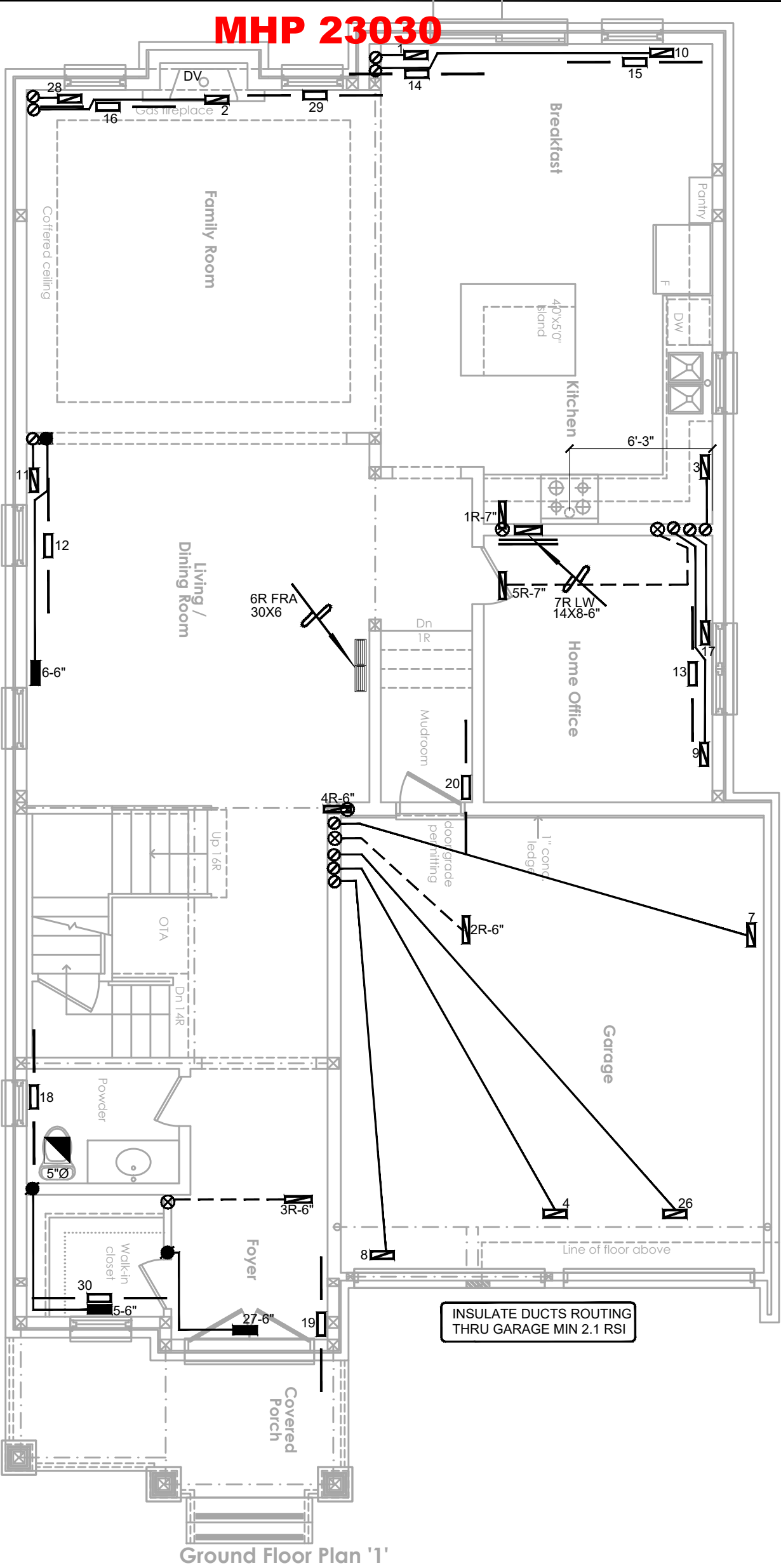
Weather Station Description			
Province:	Ontario		
Region:	Oshawa		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	7.68		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1197.8		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1596.8 cm ²	
	3.57	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):	0.342		
Cooling Air Leakage Rate (ACH/H):	0.094		

TYPE: ROSE 6
 LO# 101738

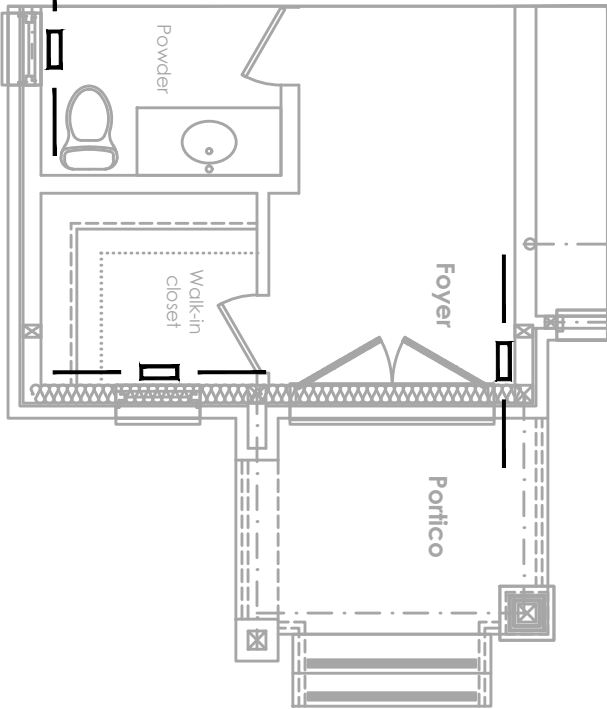
Michael O'Rourke BCIN# 19669



MHP 23030

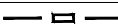


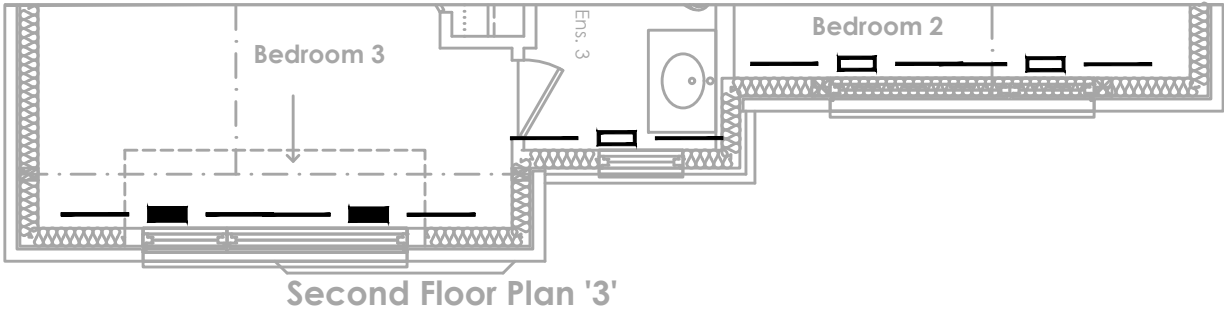
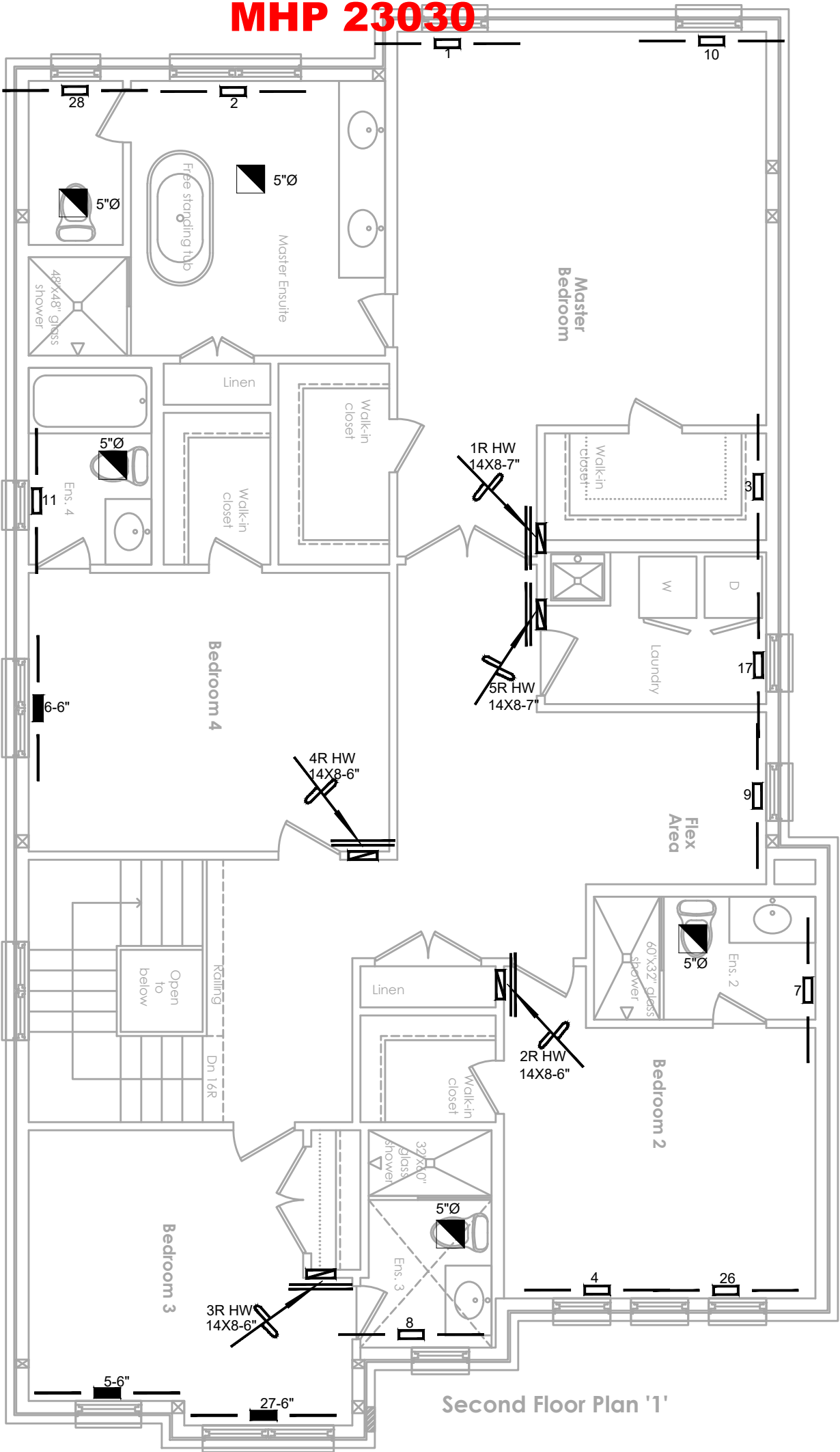
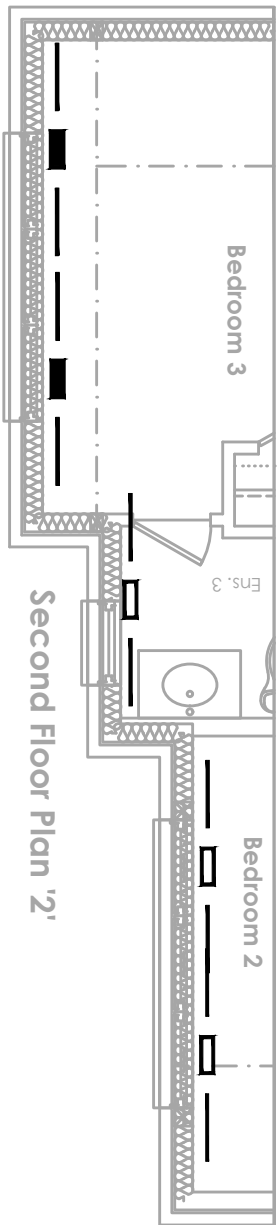
Ground Floor Plan '2'

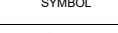
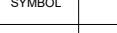
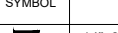
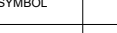
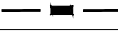
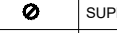
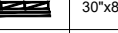
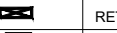
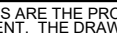


Ground Floor Plan '3'

Ground Floor Plan '1'

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			
ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.						1 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 BCIN # 19669 HVAC Designs Ltd.		PACKAGE A1			
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 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	
GREENPARK HOMES										FIRST FLOOR HEATING LAYOUT	
Project Name										Date	
ZADORRA OSHAWA, ONTARIO										JULY/2023	
						Scale		3/16" = 1'-0"			
								BCIN# 19669			
ROSE 6		3175 sqft				LO#		101738			



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 GREENPARK HOMES								 Michael O'Rourke BCIN # 19669 HVAC Designs Ltd.		
Project Name ZADORRA OSHAWA, ONTARIO								PACKAGE A1		
ROSE 6								Sheet Title SECOND FLOOR HEATING LAYOUT		
3175 sqft								Date JULY/2023		
								Scale 3/16" = 1'-0"		
								BCIN# 19669		
								LO# 101738		