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Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name MODEL CERTIFICATION		Unit no. N/A	Lot/con. N/A
Municipality KING CITY	Postal code N/A	Plan number/ other description N/A	

B. Individual who reviews and takes responsibility for design activities

Name **MICHAEL O'ROURKE**		Firm **HVAC DESIGNS LTD.**	
Street address **65 CHURCH STREET SOUTH**		Unit no.	Lot/con.
Municipality **AJAX**	Postal code **L1S 6A7**	Province **ONTARIO**	E-mail **info@hvacdesigns.ca**
Telephone number **(905) 619-2300**	Fax number **(905) 619-2375**		Cell number ( )

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ √HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work

Heat Loss/Gain Calculations
Duct Sizing
Residential Mechanical Ventilation Design Summary
Residential System Design per Can/CSA-F280-M90

Model: 50-4

Project: CASTLES OF KING CITY

D. Declaration of Designer

I **MICHAEL O'ROURKE** declare that (choose one as appropriate):
(print name)

☐ review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

☐ √I I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: 19669

Basis for exemption from registration: O.B.C. SENTENCE 3.2.4.1.(4)

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

JANUARY 30, 2014
Date

Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

65 Church St. South Ajax, ON L1S 6A7 Tel-905-619-2300 Fax-905-619-2375
Web: www.hvacdesigns.ca E-mail mike@hvacdesigns.ca

HVAC DESIGNS LTD SITE NAME: CASTLES OF KING GFA: 3596 DATE: Jan-14

BUILDER: ZANCOR HOMES TYPE: 50-4 0 LO# 53707 CALCULATIONS perHRAI TEMP DIFF. DEG F 78 SUMMER TEMP. DIFF. F. 15

ENERGYSTAR 12.1 2012 OBC - REV JAN 2014

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH			WIC-2			STUDY			ENS-2			R1			R2		
EXP. WALL			22			26			9			13			30			28			11			7			24			6			0			0		
RM AREA			493			168			99			182			182			196			242			77			143			98			0			0		
CLG. HT.			11			10			10			10			10			10			10			10			10			10			9			9		
COLD FLOOR			0			77			0			0			0			196			0			77			0			66			0			0		
COLD CEILING			493			168			99			182			182			196			242			77			143			98			0			0		
NO ATTIC EXPOSED CLG			0			0			0			0			0			0			0			0			0			0			0			0		
GROSS WALL BAS ABOVE GRADE			0			0			0			0			0			0			0			0			0			0			0			0		
GROSS WALL BAS BELOW GRADE			0			0			0			0			0			0			0			0			0			0			0			0		
FACTORS																																						
GRS.WALL AREA	LOSS	GAIN	242			260			90			130			300			280			110			70			240			60			0			0		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	19.50	13.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	273	195	0	0	0	0	0	0	0	0	0	7	137	98	0	0	0	0	0	0
EAST/WEST	19.50	33.00	67	1307	2211	27	527	891	0	0	0	0	0	0	32	624	1056	49	956	1617	0	0	0	0	0	0	27	527	891	0	0	0	0	0	0	0	0	0
SOUTH	19.50	20.92	12	234	251	7	137	146	0	0	0	14	273	293	0	0	0	0	0	0	7	137	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	19.50	136.72	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	0	0	0	0	0	0
DOORS	25.91	4.98	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	0	0	0	0	0	0
NET EXPOSED WALL	2.92	0.56	163	477	92	226	661	127	90	263	51	116	339	65	268	784	151	217	635	122	103	301	58	70	205	39	213	623	120	53	155	30	0	0	0	0	0	0
NET EXPOSED WALL BAS ABOVE GR	3.60	0.45	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	0	0	0	0	0	0
EXPOSED CLG	1.48	0.70	493	732	347	168	249	118	99	147	70	182	270	128	182	270	128	196	291	138	242	359	170	77	114	54	143	212	101	98	145	69	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.42	1.15	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	0	0	0	0	0	0
EXPOSED FLOOR	2.36	0.45	0	0	0	77	182	35	0	0	0	0	0	0	0	0	0	196	463	89	0	0	0	77	182	35	0	0	0	66	156	30	0	0	0	0	0	0
EXPOSED WALL BAS BELOW GRADE	22.00		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
BELOW GRADE HT LOSS FLOOR	1.08		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
SUBTOTAL HT LOSS				2749			1755			410			882			1678			2617			797			501			1362			593			0			0	
SUB TOTAL HT GAIN					2901			1318			120			486			1335			2162			375			129			1111			227			0			0
HT LOSS AIR LEAKAGE FACTOR	0.353			970			620			145			312			592			924			281			177			481			209			0			0	
HT GAIN AIR LEAKAGE FACTOR	0.120				349			159			14			59			161			260			45			15			134			27			0			0
HT GAIN PEOPLE/APPLIANCES	240		2		480	1		240	1		240	1		240	1		240	1		240	1		240	1		240	1		240	1		240			0			0
TOTAL HT LOSS BTU/H				3719			2375			555			1194			2270			3541			1078			678			1842			802			0			0	
TOTAL HT GAIN x 1.3 BTU/H					4849			2231			487			1020			2256			3460			858			499			1931			642			0			0

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

ROOM USE			WIC-3			DIN			KIT			FAM			LAUN			W/R			FOY			DEN			R3			R4			WOB BAS			BAS		
EXP. WALL			6			12			51			39			37			6			29			34			0			0			0			196		
RM AREA			84			0			0			0			0			0			0			0			0			0			0			0		
CLG. HT.			10			10			10			11			10			10			10			10			9			9			9			9		
COLD FLOOR			84			0			0			0			0			0			0			0			0			0			0			0		
COLD CEILING			84			0			0			0			0			0			0			0			0			0			0			0		
NO ATTIC EXPOSED CLG			0			0			0			10			0			0			0			26			0			0			0			0		
GROSS WALL BAS ABOVE GRADE			0			0			0			0			0			0			0			0			0			0			0			588		
GROSS WALL BAS BELOW GRADE			0			0			0			0			0			0			0			0			0			0			0			1176		
FACTORS																																						
GRS.WALL AREA	LOSS	GAIN	60			120			510			429			370			60			290			340			0			0			0			0		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	19.50	13.96	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	0	0	0	0	0	0
EAST/WEST	19.50	33.00	0	0	0	0	0	0	69	1346	2277	43	839	1419	13	254	429	0	0	0	12	234	396	47	917	1551	0	0	0	0	0	0	0	0	0	10	195	330
SOUTH	19.50	20.92	0	0	0	30	585	628	0	0	0	0	0	0	0	0	0	7	137	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	195	209
SKYLT.	19.50	136.72	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	0	0	0	0	0	0
DOORS	25.91	4.98	0	0	0	0	0	0	20	518	100	0	0	0	40	1037	199	0	0	0	20	518	100	0	0	0	0	0	0	0	0	0	0	0	0	20	518	100
NET EXPOSED WALL	2.92	0.56	60	175	34	90	263	51	421	1231	237	386	1129	217	317	927	178	53	155	30	258	755	145	293	857	165	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL BAS ABOVE GR	3.60	0.45	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	0	0	0	568	2043	258
EXPOSED CLG	1.48	0.70	84	125	59	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	0	0	0
NO ATTIC EXPOSED CLG	2.42	1.15	0	0	0	0	0	0	0	0	0	10	24	11	0	0	0	0	0	0	0	0	0	26	63	30	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.36	0.45	84	198	38	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	0	0	0
EXPOSED WALL BAS BELOW GRADE	22.00		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		193	4246	
BELOW GRADE HT LOSS FLOOR	1.08		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		1620	1746	
SUBTOTAL HT LOSS				499			848			3095			1992			2217			292			1507			1836			0			0			0			8943	
SUB TOTAL HT GAIN					131			678			2613			1648			807			176			641			1746			0			0			0			897
HT LOSS AIR LEAKAGE FACTOR	0.353			176			299			1093			703			783			103			532			648			0			0			0			3157	
HT GAIN AIR LEAKAGE FACTOR	0.120				16			82			315			198			97			21			77			210			0			0			0			108
HT GAIN PEOPLE/APPLIANCES	240				0	1		240	3		720	3		720	5		1200	1		240	1		240	1		240			0			0			0			0
TOTAL HT LOSS BTU/H				675			1148			4188			2695			3000			394			2039			2485			0			0			0			12100	
TOTAL HT GAIN x 1.3 BTU/H					191			1300			4742			3336			2735			569			1245			2854			0			0			0			1306

TOTAL HEAT GAIN BTU/H **40754** **3.40** TONS LOSS DUE TO VENTILATION LOAD BTU/H **16966** TOTAL STRUCTURE HEAT LOSS BTU/H **46778** TOTAL COMBINED HEAT LOSS BTU/H **63744**

HVAC DESIGNS LTD.
65 Church St. South Ajax, ON L1S 6A7 Tel-905-619-2300 Fax-905-619-2375
Web: www.hvacdesigns.ca E-mail mike@hvacdesigns.ca

SITE NAME: CASTLES OF KING 0

BUILDER: ZANCOR HOMES TYPE: 50-4 DATE: Jan-14 GFA: 3596 LO# 53707 CALCULATIONS perHRAI

FURNACE CFM	1285	FURNACE CFM	1285	furnace pressure	0.5
TOTAL HEAT LOSS	46778	TOTAL HEAT GAIN	36513	furnace filter	0.025
AIR FLOW RATE CFM	27.47	AIR FLOW RATE CFM	35.19	a/c coil pressure	0.2
				available pressure for s/a & r/a	**0.28**

RUN COUNT	3rd	2nd	1st	Bas
S/A	0	15	9	4
R/A	0	4	3	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	0.14	r/a pressure	0.14
s/a dif press. loss	0.01	r/a grille press. Loss	0.02
adjusted pressure s/a	**0.13**	adjusted pressure r/a	**0.12**

*LENNOX HI-BOY HI-EFFIECENCY
ML195UH090XP48C 90 OUTPUT 85000 BTUH

FAN SPEED	CFM @ .5" E.S.P.
LOW	1285
MEDLOW	1460
MEDIUM	
MEDIUM HIGH	1675
HIGH	1830

DESIGN CFM = 1285
TEMPERATURE RISE 61 DEG/F.

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	BATH	BED-4	BED-3	MBR	ENS-2	DEN	DIN	KIT	KIT	FAM	LAUN	W/R	FOY	FAM	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.86	1.19	0.55	1.19	1.14	1.77	1.08	1.77	1.14	1.86	0.80	2.48	1.15	2.09	2.09	1.35	3.00	0.39	2.04	1.35	3.03	3.03	3.03	3.03
CFM PER RUN HEAT	51	33	15	33	31	49	30	49	31	51	22	68	32	58	58	37	82	11	56	37	83	83	83	83
RM GAIN MBH.	2.42	1.12	0.49	1.02	1.13	1.73	0.86	1.73	1.13	2.42	0.64	2.85	1.30	2.37	2.37	1.67	2.73	0.57	1.25	1.67	0.33	0.33	0.33	0.33
CFM PER RUN COOLING	85	39	17	36	40	61	30	61	40	85	23	100	46	83	83	59	96	20	44	59	11	11	11	11
ADJUSTED PRESSURE	0.125	0.13	0.125	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.125	0.13	0.13	0.13	0.13	0.13
ACTUAL DUCT LGH.	71	63	57	44	39	55	32	46	45	79	53	34	33	61	71	19	64	24	33	48	60	34	22	26
EQUIVALENT LENGTH	190	210	200	180	170	190	160	160	190	190	170	140	180	180	180	190	160	180	150	190	170	150	160	150
TOTAL EFFECTIVE LH	261	273	257	224	209	245	192	206	235	269	223	174	213	241	251	209	224	204	183	238	230	184	182	176
ADJUSTED PRESSURE	0.05	0.05	0.05	0.06	0.06	0.05	0.07	0.06	0.05	0.05	0.06	0.07	0.06	0.05	0.05	0.06	0.06	0.06	0.07	0.05	0.05	0.07	0.07	0.07
ROUND DUCT SIZE	**6**	5	5	5	5	**6**	5	5	5	**6**	5	**6**	5	**6**	**6**	5	**6**	5	5	5	**6**	**6**	**6**	**6**
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	D	B	C	D	D	D	C	A	D	C	B	A	A	A	A	C	C	A	A	B	B	C

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
ROOM NAME			WIC-3	WIC-2	STUDY	ENS																		
RM LOSS MBH.	0.00	0.00	0.67	0.68	1.84	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CFM PER RUN HEAT	0	0	19	19	51	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RM GAIN MBH.	0.00	0.00	0.19	0.50	1.93	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CFM PER RUN COOLING	0	0	7	18	68	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTED PRESSURE	0.125	0.13	0.125	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.125	0.13	0.13	0.13	0.13	0.13
ACTUAL DUCT LGH.	1	1	43	54	76	49	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	0	0	150	190	140	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	1	1	193	244	216	199	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	12.5	12.5	0.06	0.05	0.06	0.06	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
ROUND DUCT SIZE	0	0	5	5	**6**	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK			D	D	A	B																		

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT				TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		
TRUNK A	508	0.05	12.2	17	x	8	TRUNK F	0	0.05	0	0	x	8
TRUNK B	805	0.05	14.5	24	x	8	TRUNK G	0	0.05	0	0	x	8
TRUNK C	280	0.05	9.8	11	x	8'	TRUNK H	0	0.05	0	0	x	8
TRUNK D	483	0.05	12	16	x	8	TRUNK I	0	0.05	0	0	x	8
TRUNK E	1285	0.05	17.3	27	x	10	TRUNK J	0	0.05	0	0	x	8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		
TRUNK O	0	0.05	0	0	x	8
TRUNK P	0	0.05	0	0	x	8
TRUNK Q	0	0.05	0	0	x	8
TRUNK R	0	0.05	0	0	x	8
TRUNK S	0	0.05	0	0	x	8
TRUNK T	0	0.05	0	0	x	8
TRUNK U	0	0.05	0	0	x	8
TRUNK V	0	0.05	0	0	x	8
TRUNK W	0	0.05	0	0	x	8
TRUNK X	730	0.05	14	22	x	8
TRUNK Y	555	0.05	12.7	18	x	8
TRUNK Z	135	0.05	7.5	6	x	8
DROP	1285	0.05	17.3	24	x	11

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	135	135	135	115	285	185	135	0	0	0	0	0	0	0	160
PLENUM PRESSURE	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
ACTUAL DUCT LGH.	61	50	46	56	40	19	26	1	1	1	1	1	1	1	15
EQUIVALENT LENGTH	160	205	210	175	185	135	205	0	0	0	0	0	0	0	185
TOTAL EFFECTIVE LH	221	255	256	231	225	154	231	1	1	1	1	1	1	1	200
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.05	0.08	0.05	12	12	12	12	12	12	12	0.06
ROUND DUCT SIZE	7.5	7.5	7.5	7	9.9	7.5	7.5	0	0	0	0	0	0	0	7.6
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	30	14	14	0	0	0	0	0	0	0	24

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

MICHAEL O'ROURKE
BCIN: 19669

HVAC DESIGNS LTD.
65 Church St. South Ajax, ON L1S 6A7 Tel-905-619-2300 Fax-905-619-2375
Web: www.hvacdesigns.ca E-mail mike@hvacdesigns.ca

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE. INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

TYPE: 50-4 LO # 53707

SITE NAME: CASTLES OF KING

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	3	@ 10.6 cfm	31.8	cfm
Kitchen & Bathrooms	5	@ 10.6 cfm	53	cfm
Other Rooms	7	@ 10. 6cfm	74.2	cfm
Table 9.32.3.A.	TOTAL		201.4	cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED 9.32.3.4.(1)

Master Bedroom	31.8 cfm	
Two Bedrooms	47.7 cfm	
Three Bedrooms	63.6 cfm	
Four Bedrooms	79.5 cfm	
Table 9.32.3.B.	TOTAL 79.5	cfm
More than 5 - Part 6		

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	120	cfm
Required Supplemental Capacity	81.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 90H-V ECM Location: BSMT

120 cfm [✓] HVI Approved

0.6 sones

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
LAUN	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 90H-V ECM

159 cfm high 65 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

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: January-14

HVAC DESIGNS LTD.
65 Church St. South Ajax, Ontario L1S 6A7

MODEL: 50-4 **LO#** 53707 **BUILDER:** ZANCOR HOMES

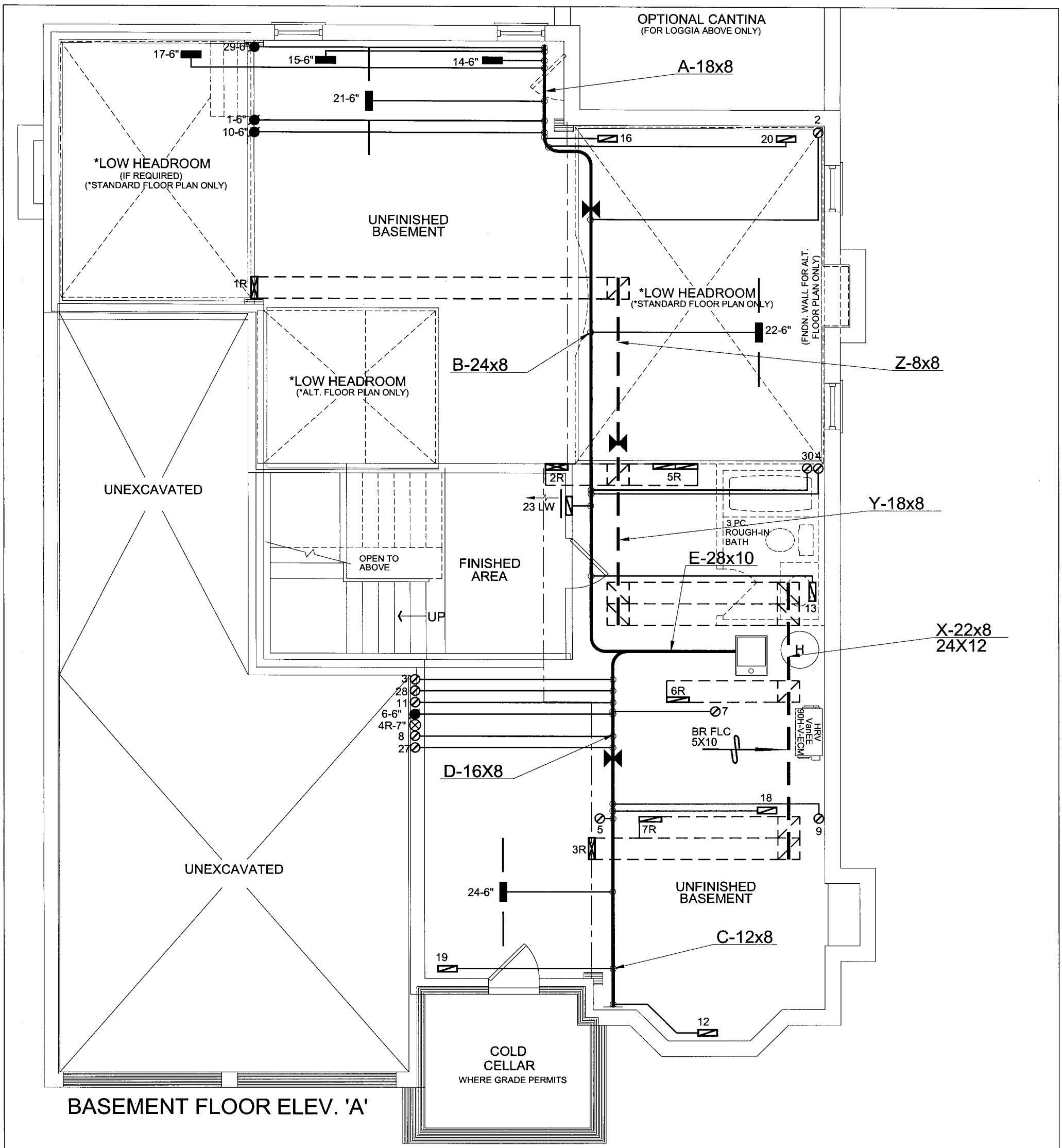
SFQT: 3596

ENERGYSTAR 12.1

Component	Compliance Package ZONE 1
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	24
Basement Walls Minimum RSI (R)-Value	20
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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	ZONE C
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	95%
HRV Minimum Efficiency	75%
Domestic Hot Water Heater Minimum EF	0.9

Michael O'Rourke

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



OBC 2012-Rev. 2014

ENERGY STAR

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

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR 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
3.		
2.		
1.		

REVISIONS

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Client
ZANCOR HOMES

Project Name
THE CASTLES OF KING
KING CITY, ONTARIO

50-4 3596 sqft

HVAC DESIGNS LTD.
65 Church Street South - Ajax, Ontario
L1S 6A7 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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.

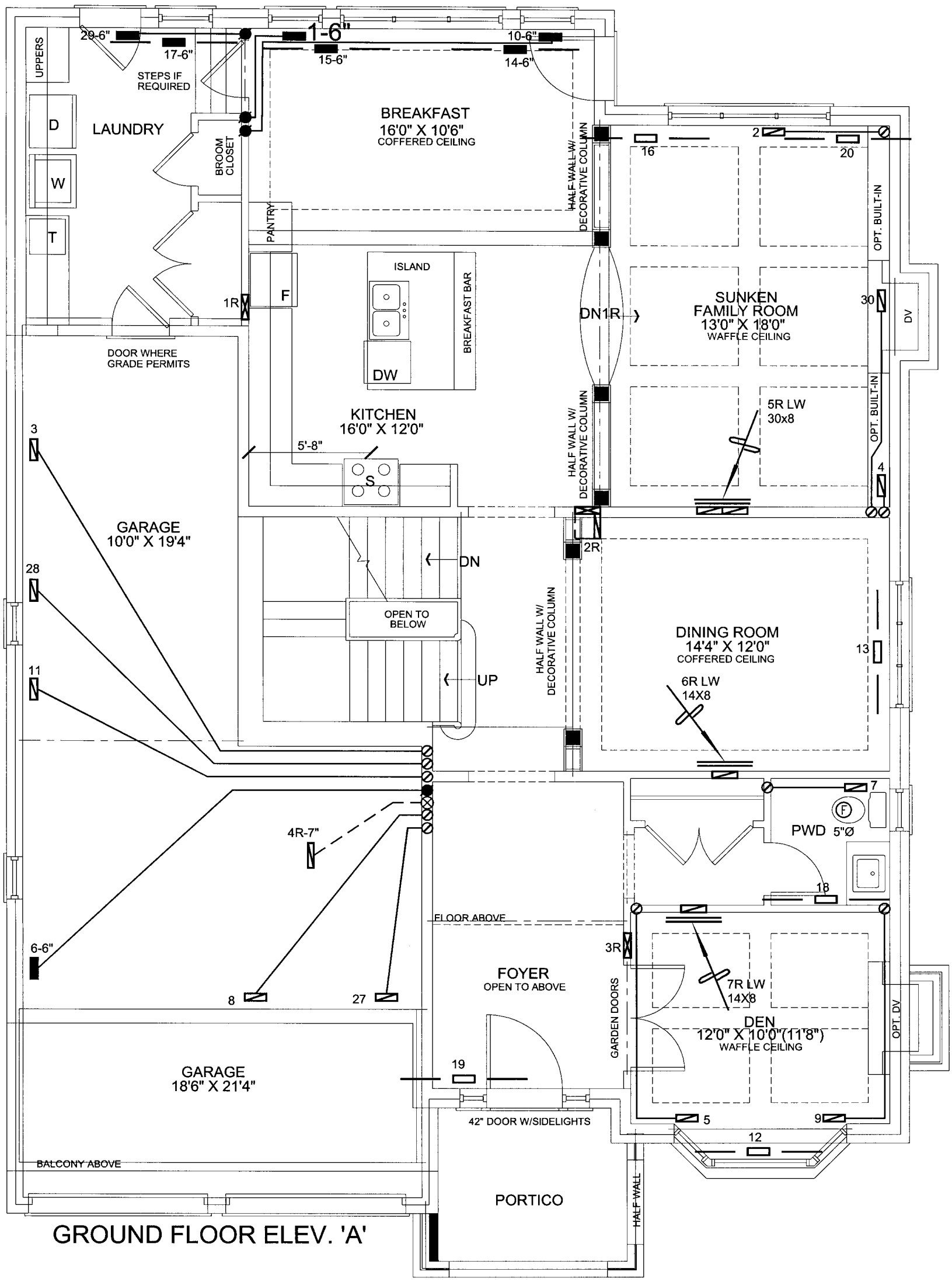
HEAT LOSS 63744 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	ML195UH090XP48C-90
INPUT	88 MBTU/H
OUTPUT	85 MBTU/H
COOLING	3.5 TONS
FAN SPEED	1285 cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	15	4	4
1ST FLOOR	9	3	2
BASEMENT	4	1	0

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

Sheet Title
BASEMENT HEATING LAYOUT

Date JAN/2014
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 53707



GROUND FLOOR ELEV. 'A'

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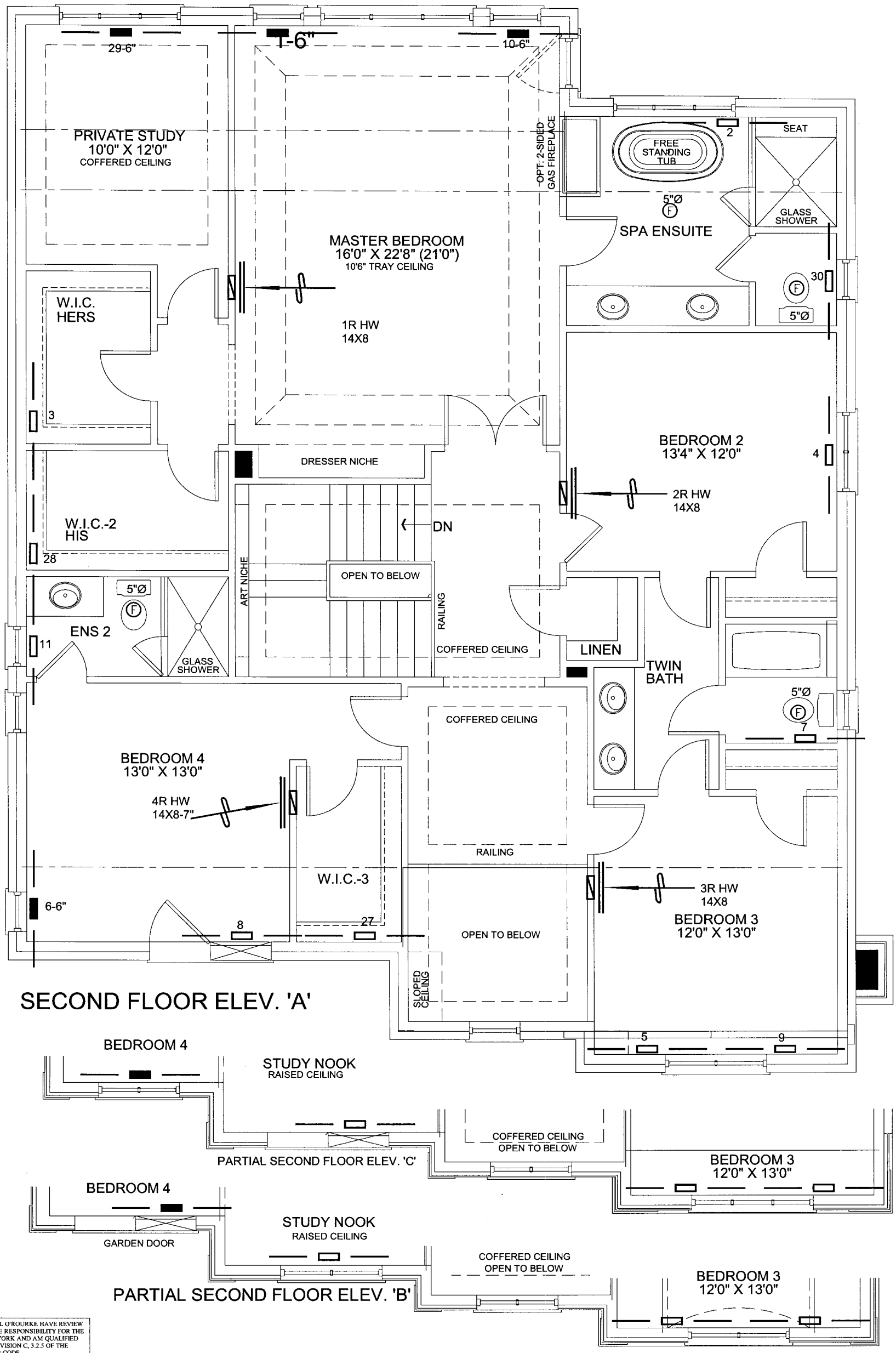
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2014
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 53707



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ENERGY STAR

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JAN/2014
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 53707