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			Unit no.	Lot/con.
Municipality	**Postal code**	**Plan number/ other description**		
INNISFIL				

B. Individual who reviews and takes responsibility for design activities

Name		Firm		
MICHAEL O'ROURKE		**HVAC DESIGNS LTD.**		
Street address			**Unit no.**	**Lot/con.**
375 FINLEY AVE			**202**	**N/A**
Municipality	**Postal code**	**Province**	**E-mail**	
AJAX	**L1S 2E2**	**ONTARIO**	**info@hvacdesigns.ca**	
Telephone number	**Fax number**		**Cell number**	
(905) 619-2300	**(905) 619-2375**		( )	

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 CSA-F280-12**	**Model:** 32-2-12 ALT 1ST **Project:** ALCONA

D. Declaration of Designer

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

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

Individual BCIN: 19669
Basis for exemption from registration and qualification: 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.

June 21, 2017
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.

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Town of Innisfil Certified Model
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SITE NAME: ALCONA ALT 1ST DATE: Jun-17 WINTER NATURAL AIR CHANGE RATE 0.332 HEAT LOSS ΔT °F. 83 CSA-F280-12
BUILDER: BAYVIEW WELLINGTON TYPE: 32-2-12 GFA: 2070 LO# 74578 SUMMER NATURAL AIR CHANGE RATE 0.087 HEAT GAIN ΔT °F. 12 SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH		
EXP. WALL			30			22			6			24			35			17			8		
CLG. HT.			9			9			9			10			10			9			9		
	FACTORS																						
GRS.WALL AREA	LOSS	GAIN	270			198			54			228			333			153			72		
GLAZING			LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN
NORTH	23.3	15.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	23.3	41.4	0	0	0	0	0	0	0	0	0	28	652	1159	33	769	1366	0	0	0	0	0	0
SOUTH	23.3	24.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	652	692	7	163	173
WEST	23.3	41.4	28	652	1159	13	303	538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	40.8	101.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	27.6	4.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	242	1182	173	185	904	133	54	264	39	200	977	143	300	1463	215	125	611	90	65	318	47
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.4	0.6	224	315	129	121	170	70	96	135	55	124	174	72	145	204	84	187	263	108	128	180	74
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0	0	0	0	0	0	0	30	90	37	30	90	37	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0	0	0	0	154	430	63	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2149			1377			399			2324			2526			1526			660	
SUB TOTAL HT GAIN					1461			740			94			1474			1701			890			294
LEVEL FACTOR / MULTIPLIER			0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24	
AIR CHANGE HEAT LOSS				512			328			95			553			601			363			157	
AIR CHANGE HEAT GAIN					102			52			7			103			119			62			21
DUCT LOSS				0			0			0			288			0			0			0	
DUCT GAIN					0			0			0			240			0			0			0
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					582			0			0			582			582			582			0
TOTAL HT LOSS BTU/H				2661			1704			494			3165			3127			1889			818	
TOTAL HT GAIN x 1.3 BTU/H					3413			1030			131			3430			3434			2306			408

ROOM USE			GRT				KIT			WIC-2			LAUN			W/R			FOY			MUD				WOD			BAS	
EXP. WALL			41				60			12			7			4			18			16				36			150		
CLG. HT.			10				10			10			9			10			11			10				9			9		
	FACTORS																														
GRS.WALL AREA	LOSS	GAIN	410				600			120			63			40			189			160				324			1116		
GLAZING			LOSS		GAIN		LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN		LOSS		GAIN	LOSS		GAIN
NORTH	23.3	15.8	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		23	536	364	6	140	95
EAST	23.3	41.4	0	0	0		0	0	0	12	280	497	0	0	0	0	0	0	6	140	248	0	0	0		0	0	0	0	0	0
SOUTH	23.3	24.7	48	1118	1187		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
WEST	23.3	41.4	0	0	0		83	1934	3435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
SKYLT.	40.8	101.3	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
DOORS	27.6	4.1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	40	1106	162	20	553	81		0	0	0	20	553	81
NET EXPOSED WALL	4.9	0.7	362	1769	259		517	2526	370	108	528	77	63	308	45	40	195	29	143	699	102	140	684	100		0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		193	760	111	234	922	135
EXPOSED CLG	1.4	0.6	0	0	0		0	0	0	0	0	0	105	148	61	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	3.0	1.2	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	2.8	0.4	0	0	0		0	0	0	0	0	0	54	151	22	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			0						5186		
SLAB ON GRADE HEAT LOSS				0				0			0			0			0			0			0				0				
SUBTOTAL HT LOSS				2887				4459			807			606			195			1944			1237				1296			6800	
SUB TOTAL HT GAIN					1446				3805			574			128			29			513			181					475			311
LEVEL FACTOR / MULTIPLIER			0.30	0.36			0.30	0.36		0.30	0.36		0.20	0.24		0.30	0.36		0.30	0.36		0.30	0.36						0.50	0.85	
AIR CHANGE HEAT LOSS				1034				1597			289			144			70			696			443							6882		
AIR CHANGE HEAT GAIN					101				266			40			9			2			36			13								55
DUCT LOSS				0				0			0			75			0			0			0							0		
DUCT GAIN					0				0			0			72			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
HEAT GAIN APPLIANCES/LIGHTS					582				582			0			582			0			0			582					0			582
TOTAL HT LOSS BTU/H				3921				6056			1096			825			265			2640			1680				1296			13682	
TOTAL HT GAIN x 1.3 BTU/H					2768				6049			798			1028			40			713			1009					618			1232

TOTAL HEAT GAIN BTU/H: 28863 TONS: 2.41 LOSS DUE TO VENTILATION LOAD BTU/H: 3122 STRUCTURAL HEAT LOSS: 45320 TOTAL COMBINED HEAT LOSS BTU/H: 48442

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

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
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SITE NAME: ALCONA — ALT 1ST
BUILDER: BAYVIEW WELLINGTON — TYPE: 32-2-12 — DATE: Jun-17 — GFA: 2070 — LO# 74578

HEATING CFM	995	COOLING CFM	995	furnace pressure	0.6				^LENNOX		AFUE =	96 %
TOTAL HEAT LOSS	45,320	TOTAL HEAT GAIN	28,406	furnace filter	0.05				EL296UH070XE36B	70	INPUT (BTU/H) =	66,000
AIR FLOW RATE CFM	21.96	AIR FLOW RATE CFM	35.03	a/c coil pressure	0.2				FAN SPEED		OUTPUT (BTU/H) =	**64,000**
				available pressure for s/a & r/a	0.35				LOW	0		
									MEDLOW	0	DESIGN CFM =	**995**
				plenum pressure s/a	0.18	r/a pressure	0.17		MEDIUM	995	CFM @ .6 " E.S.P.	
				max s/a dif press. loss	0.02	r/a grille press. Loss	0.02		MEDIUM HIGH	1100		
				min adjusted pressure s/a	0.16	adjusted pressure r/a	0.15		HIGH	0	TEMPERATURE RISE	60 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	9	4
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.

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-2	BED-3	MBR	WIC-2	GRT	GRT	KIT	KIT	KIT	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.33	1.70	0.49	1.58	1.56	1.89	0.82	1.58	1.56	1.33	1.10	1.96	1.96	2.02	2.02	2.02	0.83	0.27	2.64	1.68	3.74	3.74	3.74	3.74
CFM PER RUN HEAT	29	37	11	35	34	41	18	35	34	29	24	43	43	44	44	44	18	6	58	37	82	82	82	82
RM GAIN MBH.	1.71	1.03	0.13	1.71	1.72	2.31	0.41	1.71	1.72	1.71	0.80	1.38	1.38	2.02	2.02	2.02	1.03	0.04	0.71	1.01	0.46	0.46	0.46	0.46
CFM PER RUN COOLING	60	36	5	60	60	81	14	60	60	60	28	48	48	71	71	71	36	1	25	35	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	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	0.16
ACTUAL DUCT LGH.	67	58	36	37	54	41	58	42	63	75	41	24	33	33	37	43	30	26	31	19	38	28	25	34
EQUIVALENT LENGTH	150	130	120	190	120	140	160	180	140	150	120	130	140	110	140	120	170	110	90	140	90	110	150	120
TOTAL EFFECTIVE LENGTH	217	188	156	227	174	181	218	222	203	225	161	154	173	143	177	163	200	136	121	159	128	138	175	154
ADJUSTED PRESSURE	0.08	0.09	0.11	0.08	0.1	0.09	0.08	0.08	0.08	0.08	0.11	0.11	0.1	0.12	0.1	0.11	0.09	0.13	0.14	0.11	0.13	0.12	0.09	0.11
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	4	4	4	5	5	5	4	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	213	424	126	257	250	301	207	257	250	213	275	493	493	323	323	323	207	69	665	424	602	602	602	602
COOLING VELOCITY (ft/min)	441	413	57	441	441	595	161	441	441	441	321	551	551	521	521	521	413	11	287	402	117	117	117	117
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	C	C	D	C	D	C	D	A	D	C	D	A	A	A	C	C	D	C	A	A	D	D

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																								

SUPPLY 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 A	391	0.08	9.9	12	x	8	587	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	0	0.00	0	0	x	8	0	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	617	0.08	11.7	16	x	8	694	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	375	0.08	9.7	12	x	8	563	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	995	0.08	14	22	x	8	814	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.07	0	0	x	8	0
TRUNK P	0	0.07	0	0	x	8	0
TRUNK Q	0	0.07	0	0	x	8	0
TRUNK R	0	0.07	0	0	x	8	0
TRUNK S	0	0.07	0	0	x	8	0
TRUNK T	0	0.07	0	0	x	8	0
TRUNK U	0	0.07	0	0	x	8	0
TRUNK V	0	0.07	0	0	x	8	0
TRUNK W	0	0.07	0	0	x	8	0
TRUNK X	995	0.07	14.5	26	x	8	689
TRUNK Y	0	0.07	0	0	x	8	0
TRUNK Z	0	0.07	0	0	x	8	0
DROP	995	0.07	14.5	24	x	10	597

RETURN AIR #	1	2	3	4	5											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	120	120	120	120	360	0	0	0	0	0	0	0	0	0	0	155
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	55	36	42	47	27	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	145	150	145	145	190	0	0	0	0	0	0	0	0	0	0	150
TOTAL EFFECTIVE LH	200	186	187	192	217	1	1	1	1	1	1	1	1	1	1	164
ADJUSTED PRESSURE	0.07	0.08	0.08	0.08	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	6.6	6.3	6.3	6.3	9.9	0	0	0	0	0	0	0	0	0	0	6.8
INLET GRILL SIZE	8	8	8	8	8	0	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	X
INLET GRILL SIZE	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	14

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

Michael O'Rourke — INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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Town of Innisfil Certified Model
04/01/2018 2:04:30 PM kgervais

TYPE: 32-2-12 LO # 74578
SITE NAME: ALCONA ALT 1ST

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	4	@ 10.6 cfm	42.4	cfm
Other Rooms	5	@ 10.6 cfm	53.0	cfm
Table 9.32.3.A.		TOTAL	169.6	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	169.6	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	30.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 60H-V+ Location: BSMT

139.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
139.0 CFM	X	83 F	X	1.08	X	0.25

SUPPLEMENTAL FANS NUTONE

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

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 60H-V+

139 cfm high 50 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: BAYVIEW WELLINGTON

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: June-17

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 MICHAEL O'ROURKE

HVAC DESIGNS LTD.
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:	32-2-12		ALT 1ST	**BUILDER:**	BAYVIEW WELLINGTON
SFQT:	2070	**LO#**	74578	**SITE:**	ALCONA

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-11	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

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):	27850.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 48.0 ft	WIDTH: 27.0 ft	EXPOSED PERIMETER:	150.0 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	29.8
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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

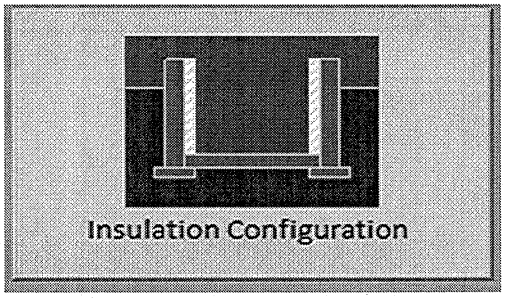
Michael O'Rourke

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Barrie
Site Description	
Soil Conductivity:	Normal conductivity: dry dand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**14.6**	 Insulation Configuration
Floor Width (m):	**8.2**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**2.7**	
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):		**1519**

TYPE: 32-2-12 ALT 1ST
LO# 74578

HVAC Designs 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:	Barrie
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:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	788.6
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1051.3 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 65.6 / Total Exhaust 65.6
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.332**
Cooling Air Leakage Rate (ACH/H):	**0.087**

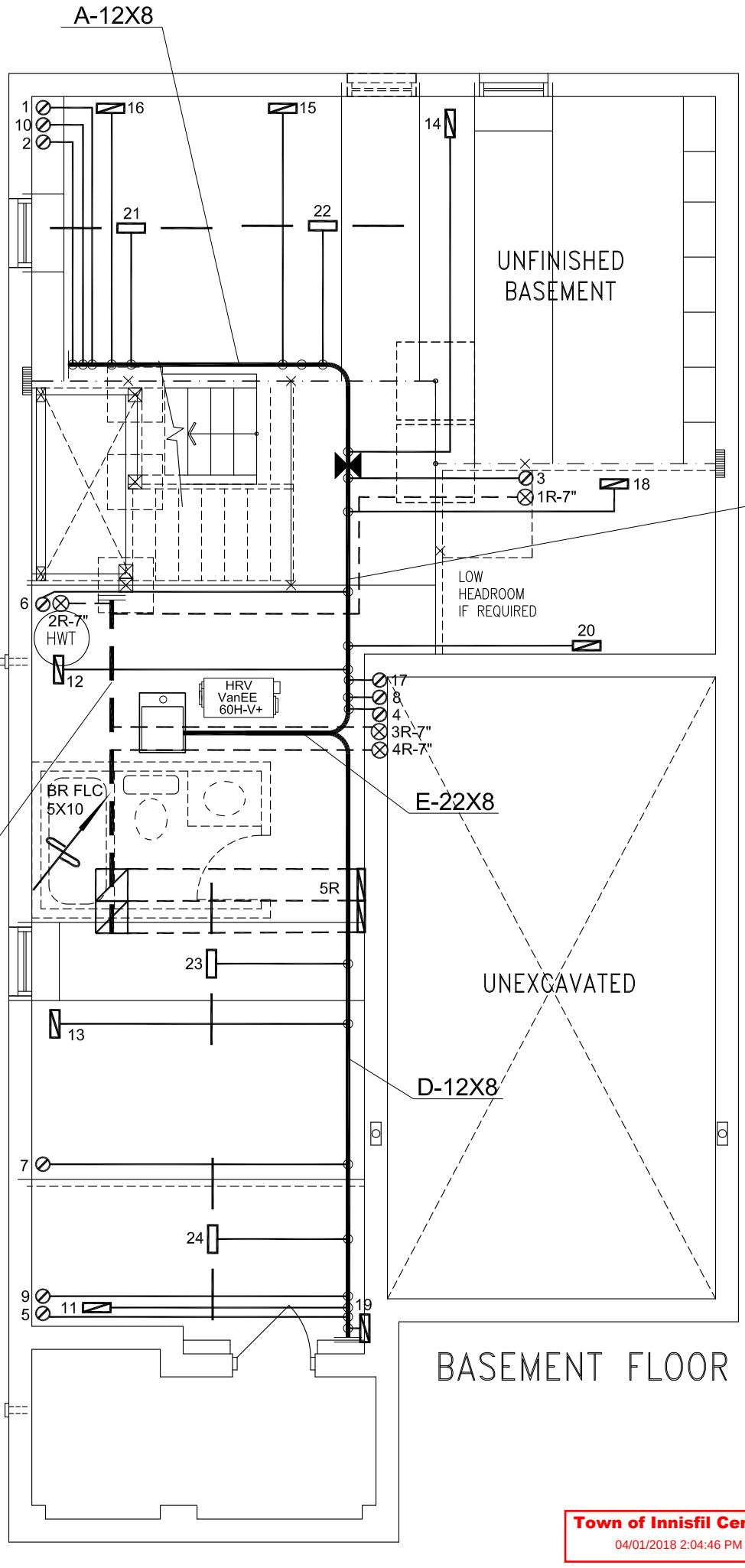
TYPE: 32-2-12 ALT 1ST

LO# 74578

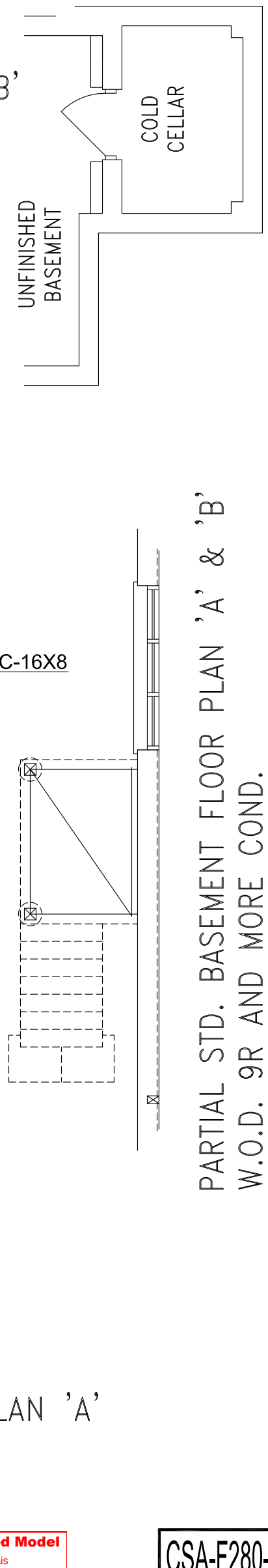
BASEMENT FLOOR PLAN 'B'
10'0" GARAGE

PARTIAL SUNKEN
LAUNDRY 2-3R
CONDITION

PARTIAL SUNKEN
LAUNDRY 1R
CONDITION



BASEMENT FLOOR PLAN 'A'



PARTIAL STD. BASEMENT FLOOR PLAN 'A' & 'B'
W.O.D. 9R AND MORE COND.

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, BCIN# 19669
HVAC DESIGNS LTD.

Town of Innisfil Certified Model
04/01/2018 2:04:46 PM kgervais

CSA-F280-12
PACKAGE A1

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

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

ALT. 1ST
32-2-12 2070 sqft

HVAC DESIGNS 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
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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.

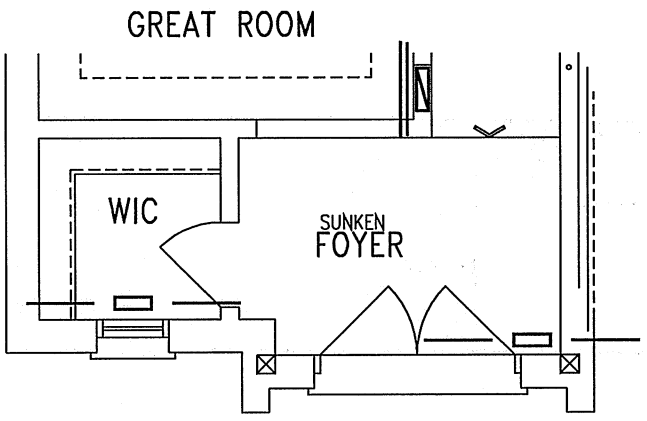
HEAT LOSS 48442 BTU/H		
UNIT DATA		
MAKE	LENNOX	
MODEL	EL296UH070XE36B	
INPUT	66	MBTU/H
OUTPUT	64	MBTU/H
COOLING	2.5	TONS
FAN SPEED	995	cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	11	4	3
1ST FLOOR	9	2	2
BASEMENT	4	1	0

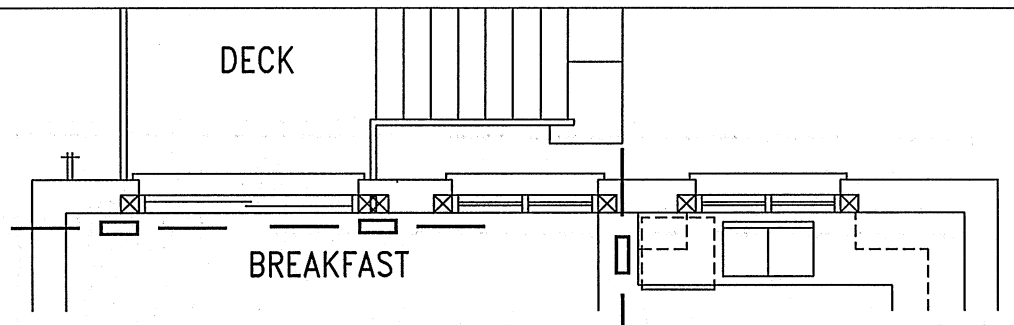
ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

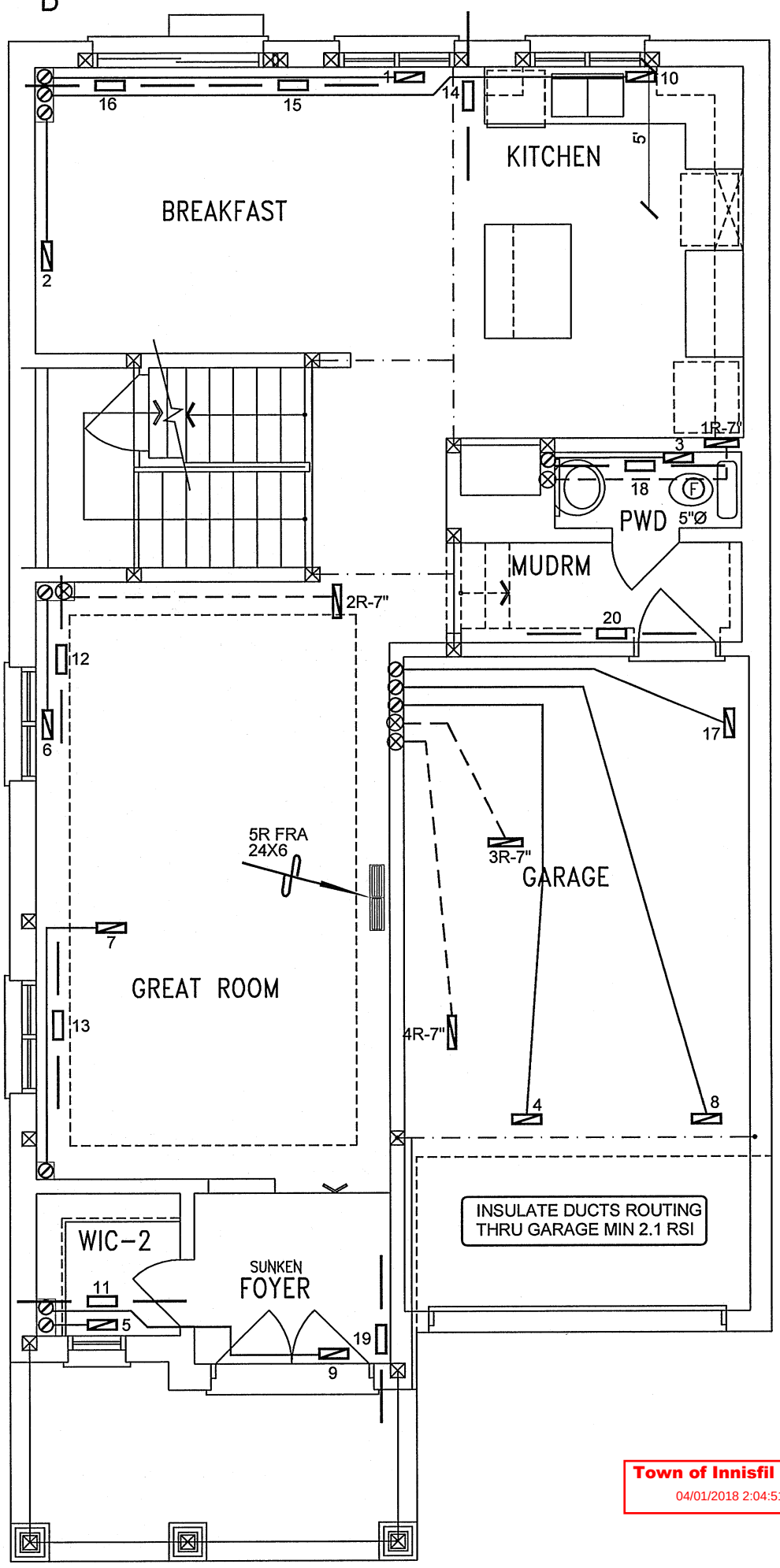
Date JUNE/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 74578



GROUND FLOOR PLAN 'B'
10'0" GARAGE



PARTIAL ALT. GROUND FLOOR PLAN 'A' & 'B'
W.O.D. 9R AND MORE COND.



ALT. GROUND FLOOR PLAN 'A'

Town of Innisfil Certified Model
04/01/2018 2:04:51 PM kgervais

CSA-F280-12
PACKAGE A1

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, 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.		
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REVISIONS

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

ALT. 1ST
32-2-12 2070 sqft

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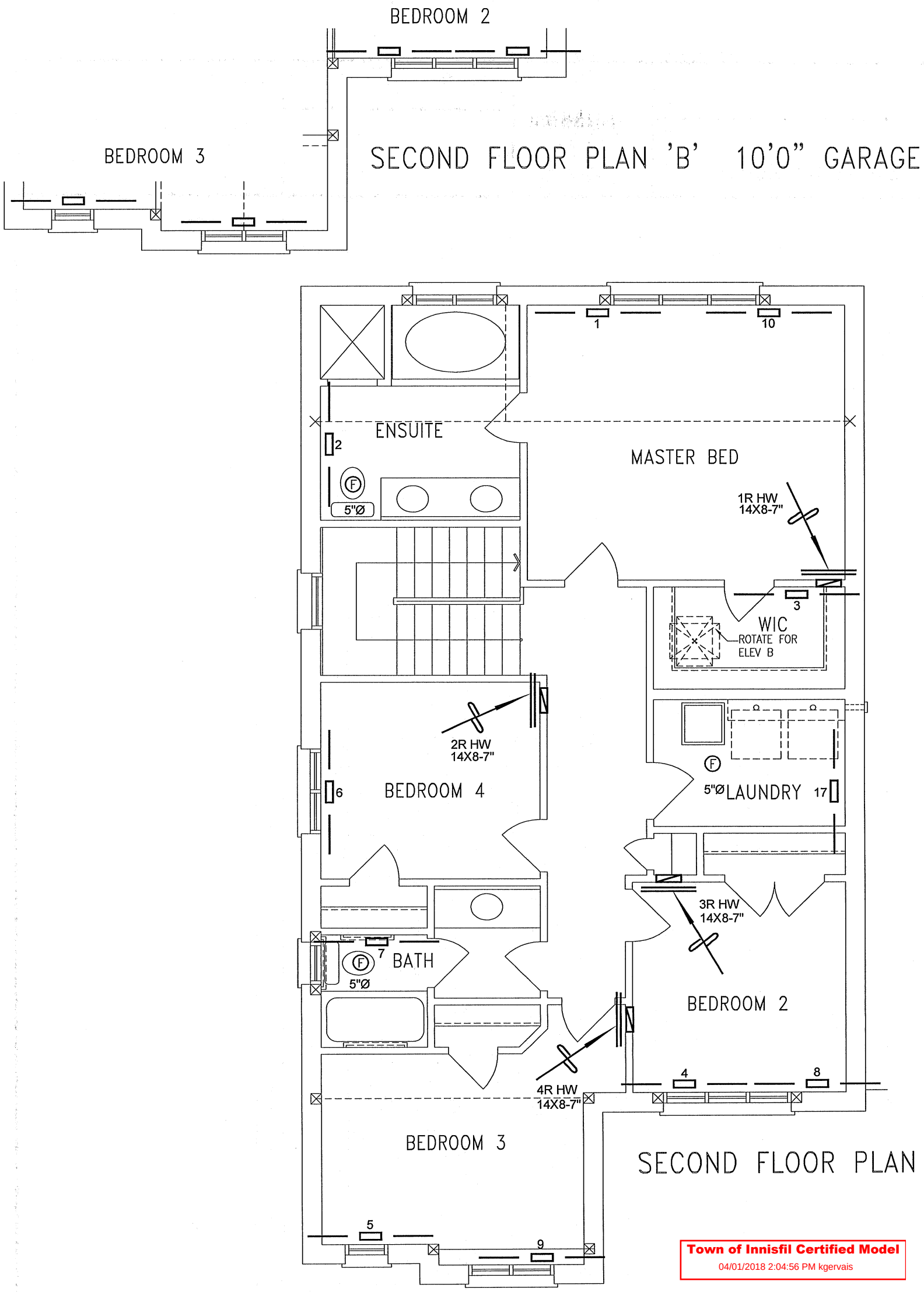
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 74578



Town of Innisfil Certified Model
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Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

ALT. 1ST
32-2-12 2070 sqft

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 74578