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 INNISFIL	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities

Name **MICHAEL O'ROURKE**			Firm **HVAC DESIGNS LTD.**	
Street address **375 FINLEY AVE**			Unit no. **202**	Lot/con. **N/A**
Municipality **AJAX**	Postal code **L1S 2E2**	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 CSA-F280-12**	**Model:** 45-1 **Project:** ALCONA

D. Declaration of Designer

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

☐ 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 23, 2017
Date

Michael O'Rourke
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, Artlcle 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.

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
03/01/2018 8:43:44 AM kgervais

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Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: ALCONA — DATE: Jun-17 — WINTER NATURAL AIR CHANGE RATE 0.332 — HEAT LOSS ΔT °F. 83 — CSA-F280-12
BUILDER: BAYVIEW WELLINGTON — TYPE: 45-1 — GFA: 2941 — LOT 74593 — SUMMER NATURAL AIR CHANGE RATE 0.087 — HEAT GAIN ΔT °F. 12 — SB-12 PACKAGE A1

ROOM USE			MBR			ENS				BED-2			BED-3			BED-4			ENS-3/4				HALL			ENS-2				
EXP. WALL			47			29				32			13			13			23				8			12				
CLG. HT.			10			9				10			10			9			10				9			9				
	FACTORS																													
GRS.WALL AREA	LOSS	GAIN	470			261				304			124			117			219				72			108				
GLAZING				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	17	396	269	0	0	0		0	0	0	0	0	0		
EAST	23.3	41.4	34	792	1407	9	210	372		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		
SOUTH	23.3	24.7	0	0	0	21	489	519		0	0	0	0	0	0	0	0	0	0	0	0		17	396	420	0	0	0		
WEST	23.3	41.4	0	0	0	0	0	0		42	978	1738	17	396	704	0	0	0	17	396	704		0	0	0	9	210	372		
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		
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	0	0	0		
NET EXPOSED WALL	4.9	0.7	436	2130	312	231	1129	165		262	1280	188	107	520	76	100	489	72	202	984	144		55	269	39	99	484	71		
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	0	0	0		
EXPOSED CLG	1.4	0.6	429	603	248	204	287	118		152	214	88	180	253	104	260	365	150	97	136	56		135	191	79	119	167	69		
NO ATTIC EXPOSED CLG	3.0	1.2	30	90	37	0	0	0		30	90	37	15	45	19	0	0	0	15	45	19		0	0	0	0	0	0		
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0		182	508	75	0	0	0	0	0	0	0	0	0		0	0	0	119	332	49		
BASEMENT/CRAWL HEAT LOSS			0			0				0			0			0			0				0			0				
SLAB ON GRADE HEAT LOSS			0			0				0			0			0			0				0			0				
SUBTOTAL HT LOSS			3615			2114				3070			1214			1250			1562				856			1193				
SUB TOTAL HT GAIN					2004			1175				2125			902			490			922				538			561		
LEVEL FACTOR / MULTIPLIER			0.20	0.25		0.20	0.25			0.20	0.25		0.20	0.25		0.20	0.25		0.20	0.25			0.20	0.25		0.20	0.25			
AIR CHANGE HEAT LOSS			901			527				765			303			311			389				213			297				
AIR CHANGE HEAT GAIN					125			73				133			56			31			58				34			35		
DUCT LOSS			0			0				384			0			0			0				0			149				
DUCT GAIN					0			0				328			0			0			0				0			60		
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240	1		240	0		0		0		0	0		0		
HEAT GAIN APPLIANCES/LIGHTS					783			0				783			783			783			0				0			0		
TOTAL HT LOSS BTU/H			4516			2641				4219			1517			1561			1951				1069			1639				
TOTAL HT GAIN x 1.3 BTU/H					4410			1623				4691			2576			2007			1274				744			852		

ROOM USE				LV/DN			KT/FM				LAUN			PWD			FOY			MUD					WOD			BAS		
EXP. WALL				57			82				8			12			22			16					57			186		
CLG. HT.				10			10				9			12			11			12					9			9		
	FACTORS																													
GRS.WALL AREA	LOSS	GAIN		570			820				72			144			242			192					513			1458		
GLAZING					LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN				LOSS	GAIN		LOSS	GAIN
NORTH	23.3	15.8		25	582	395	0	0	0		0	0	0	0	0	0	12	280	190	0	0	0			0	0	0	3	70	47
EAST	23.3	41.4		0	0	0	95	2213	3931		0	0	0	0	0	0	0	0	0	0	0	0			30	699	1242	0	0	0
SOUTH	23.3	24.7		0	0	0	30	699	742		8	186	198	10	233	247	0	0	0	0	0	0			0	0	0	0	0	0
WEST	23.3	41.4		38	885	1573	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
DOORS	27.6	4.1		0	0	0	0	0	0		0	0	0	0	0	0	45	1244	182	20	553	81			0	0	0	20	553	81
NET EXPOSED WALL	4.9	0.7		507	2477	363	695	3395	498		64	313	46	134	655	96	185	904	133	172	840	123			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			312	1229	180	216	851	125
EXPOSED CLG	1.4	0.6		0	0	0	0	0	0		136	191	79	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
NO ATTIC EXPOSED CLG	3.0	1.2		20	60	25	70	211	87		0	0	0	0	0	0	56	169	69	0	0	0			0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4		0	0	0	0	0	0		136	380	56	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							6700		
SLAB ON GRADE HEAT LOSS					0			0				0			0			0			0					0				
SUBTOTAL HT LOSS					4005			6518				1070			888			2596			1393					1928			8174	
SUB TOTAL HT GAIN						2356			5258				378			343			574			204					1422			253
LEVEL FACTOR / MULTIPLIER				0.30	0.39		0.30	0.39			0.20	0.25		0.30	0.39		0.30	0.39		0.30	0.39							0.50	0.98	
AIR CHANGE HEAT LOSS					1550			2522				267			343			1004			539								9931	
AIR CHANGE HEAT GAIN						147			329				24			21			36			13								105
DUCT LOSS					0			0				134			0			0			0								0	
DUCT GAIN						0			0				118			0			0			0								0
HEAT GAIN PEOPLE	240			0		0	0		0		0		0	0		0	0		0	0		0			0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS						783			783				783			0			0			0					0			0
TOTAL HT LOSS BTU/H					5554			9040				1470			1231			3600			1932					1928			18105	
TOTAL HT GAIN x 1.3 BTU/H						4271			8280				1693			474			793			282					1848			465

TOTAL HEAT GAIN BTU/H: 36741 — TONS: 3.06 — LOSS DUE TO VENTILATION LOAD BTU/H: 3122 — STRUCTURAL HEAT LOSS: 61974 — TOTAL COMBINED HEAT LOSS BTU/H: 65096

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 BUILD NG CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
03/01/2018 8:43:57 AM kgervais

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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: 45-1 DATE: Jun-17 GFA: 2941 LO# 74593

HEATING CFM	1105	COOLING CFM	1105
TOTAL HEAT LOSS	61,974	TOTAL HEAT GAIN	36,283
AIR FLOW RATE CFM	17.83	AIR FLOW RATE CFM	30.45

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.02
min adjusted pressure s/a	0.16
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

^LENNOX
EL296UH090XE48C 90
FAN SPEED
LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
DESIGN CFM = 1105 CFM @ .6 " E.S.P.
TEMPERATURE RISE 71 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	5
R/A	0	0	4	2	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	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	ENS	BED-2	BED-3	BED-4	ENS-3/4	HALL	MBR	ENS-2	LV/DN	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.26	1.32	1.32	2.11	1.52	1.56	1.95	1.07	2.26	1.64	2.78	2.78	3.01	3.01	3.01	1.47	1.23	3.60	1.93	4.01	4.01	4.01	4.01
CFM PER RUN HEAT	40	24	24	38	27	28	35	19	40	29	50	50	54	54	54	26	22	64	34	71	71	71	71
RM GAIN MBH	2.20	0.81	0.81	2.35	2.58	2.01	1.27	0.74	2.20	0.85	2.14	2.14	2.76	2.76	2.76	1.69	0.47	0.79	0.28	0.46	0.46	0.46	0.46
CFM PER RUN COOLING	67	25	25	71	78	61	39	23	67	26	65	65	84	84	84	52	14	24	9	14	14	14	14
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	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	54	75	51	43	37	50	31	51	49	42	13	17	45	43	56	46	58	25	45	35	34	50	20
EQUIVALENT LENGTH	150	160	200	170	150	160	150	150	140	150	160	100	160	170	140	140	150	120	180	120	180	140	120
TOTAL EFFECTIVE LENGTH	204	235	251	213	187	210	181	201	189	192	173	117	205	213	196	186	208	145	225	156	214	190	140
ADJUSTED PRESSURE	0.08	0.07	0.07	0.08	0.09	0.08	0.1	0.09	0.09	0.09	0.1	0.15	0.08	0.08	0.08	0.09	0.08	0.12	0.08	0.11	0.08	0.09	0.12
ROUND DUCT SIZE	5	4	4	5	5	5	4	4	5	4	5	4	6	6	6	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	294	275	275	279	198	206	402	218	294	333	367	574	275	275	275	298	252	470	390	521	521	521	521
COOLING VELOCITY (ft/min)	492	287	287	521	573	448	447	264	492	298	477	746	428	428	428	597	161	176	103	103	103	103	103
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	A	A	D	D	B	D	C	B	C	D	D	B	A	A	C	A	D	A	B	A	A	C

RUN #	25	26
ROOM NAME	BAS	BED-2
RM LOSS MBH	4.01	2.11
CFM PER RUN HEAT	71	38
RM GAIN MBH	0.46	2.35
CFM PER RUN COOLING	14	71
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	14	58
EQUIVALENT LENGTH	120	180
TOTAL EFFECTIVE LENGTH	134	238
ADJUSTED PRESSURE	0.13	0.07
ROUND DUCT SIZE	5	5
HEATING VELOCITY (ft/min)	521	279
COOLING VELOCITY (ft/min)	103	521
OUTLET GRILL SIZE	3X10	3X10
TRUNK	D	C

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	354	0.07	9.8	12	x	8	531	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	233	0.08	8.1	8	x	8	524	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	770	0.07	13.1	20	x	8	693	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	335	0.08	9.3	10	x	8	603	TRUNK J	0	0.00	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 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	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	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
TRUNK X	1105	0.06	15.6	30	x	8	663
TRUNK Y	845	0.06	14.1	24	x	8	634
TRUNK Z	330	0.06	9.9	12	x	8	495
DROP	1105	0.06	15.6	24	x	10	663

RETURN AIR #	1	2	3	4	5	6										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	155	85	85	155	330	120	0	0	0	0	0	0	0	0	0	175
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	48	44	58	44	34	1	1	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	200	185	135	200	200	205	0	0	0	0	0	0	0	0	0	130
TOTAL EFFECTIVE LH	255	233	179	258	244	239	1	1	1	1	1	1	1	1	1	146
ADJUSTED PRESSURE	0.06	0.06	0.08	0.06	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.5	6	5.6	7.5	9.9	6.8	0	0	0	0	0	0	0	0	0	6.9
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	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

HVAC DESIGNS LTD.

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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

Town of Innisfil Certified Model
03/01/2018 8:44:19 AM kgervais

TYPE: 45-1 LO # 74593
SITE NAME: ALCONA

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	4	@ 10.6 cfm	42.4	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 9.32.3.6.

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
ENS-3/4	QTXEN050C	50	✓	0.3
ENS-2	QTXEN050C	50	✓	0.3
PWD	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:

HRAI # 001820

Date: June-17

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.

INDIVIDUAL BCIN: 19669 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: 45-1 **BUILDER:** BAYVIEW WELLINGTON
SFQT: 2941 **LO#** 74593 **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:	WEST	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):	40189.0	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:	6.0 ft
LENGTH:	56.0 ft	WIDTH: 37.0 ft	EXPOSED PERIMETER:	186.0 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	-

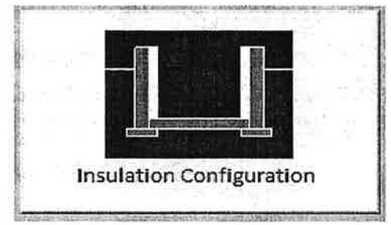
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

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):	**17.1**
Floor Width (m):	**11.3**
Exposed Perimeter (m):	**0.0**
Wall Height (m):	**2.7**
Depth Below Grade (m):	**1.83**
Window Area (m^2):	**3.1**
Door Area (m^2):	**1.9**
Radiant Slab	
Heated Fraction of the Slab:	**0**
Fluid Temperature (°C):	**33**
Design Months	
Heating Month	**1**
Foundation Loads	
Heating Load (Watts):	**1963**



TYPE: 45-1
LO# 74593

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):	1138.0				
Air Leakage/Ventilation					
Air Tightness Type:	Present (1961-) (3.57 ACH)				
Custom BDT Data:	ELA @ 10 Pa.	1517.0 cm^2			
	3.57	ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust			
	65.6	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: 45-1
LO# 74593

Town of Innisfil Certified Model
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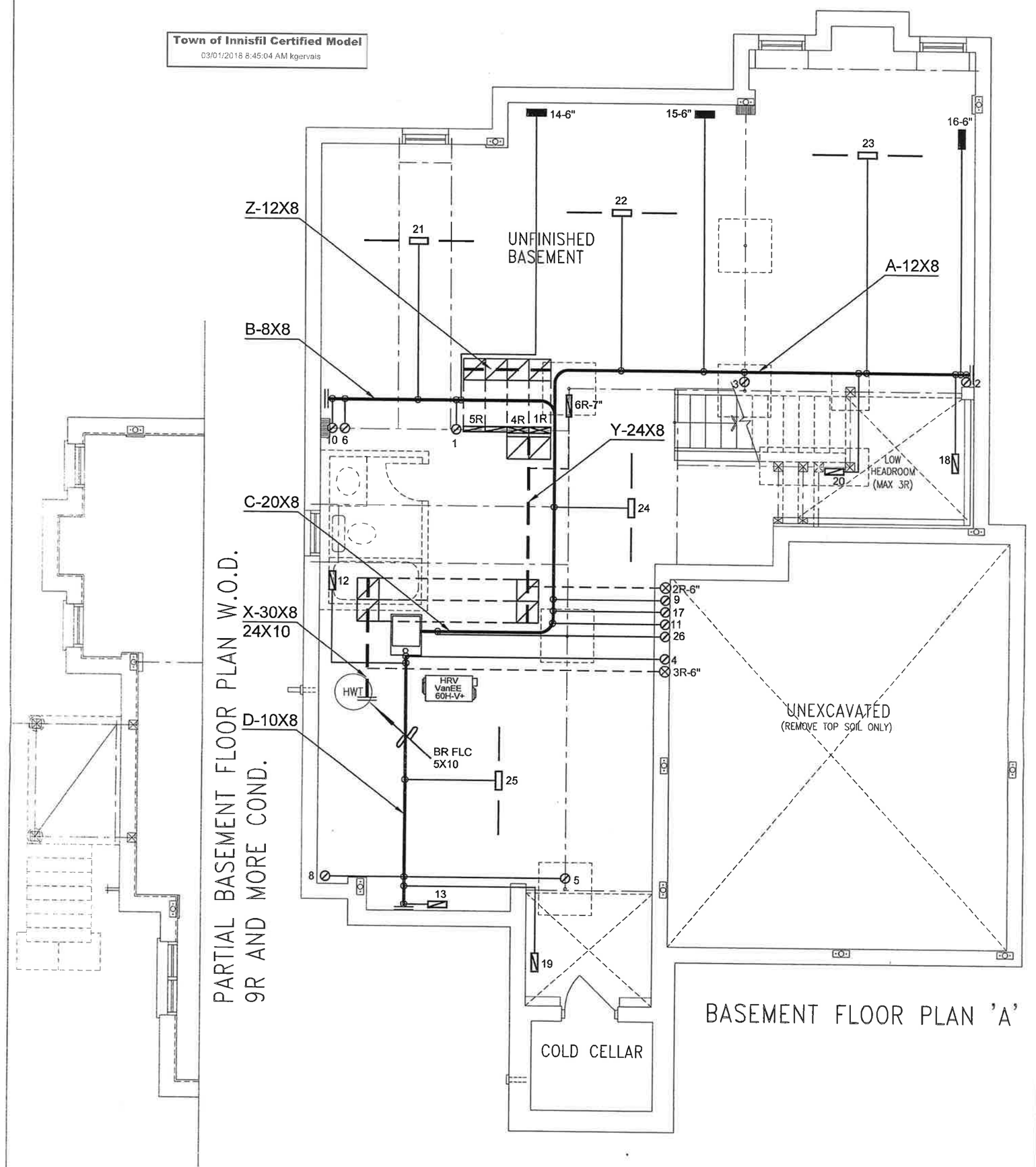

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE

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

CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	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

45-1 2941 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
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	65096 BTU/H
UNIT DATA	
MAKE	LENNOX
MODEL	EL296UH090XE48C
INPUT	88 MBTU/H
OUTPUT	85 MBTU/H
COOLING	3.0 TONS
FAN SPEED	1105 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	12	4	4
1ST FLOOR	8	2	2
BASEMENT	5	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# 74593

Town of Innisfil Certified Model
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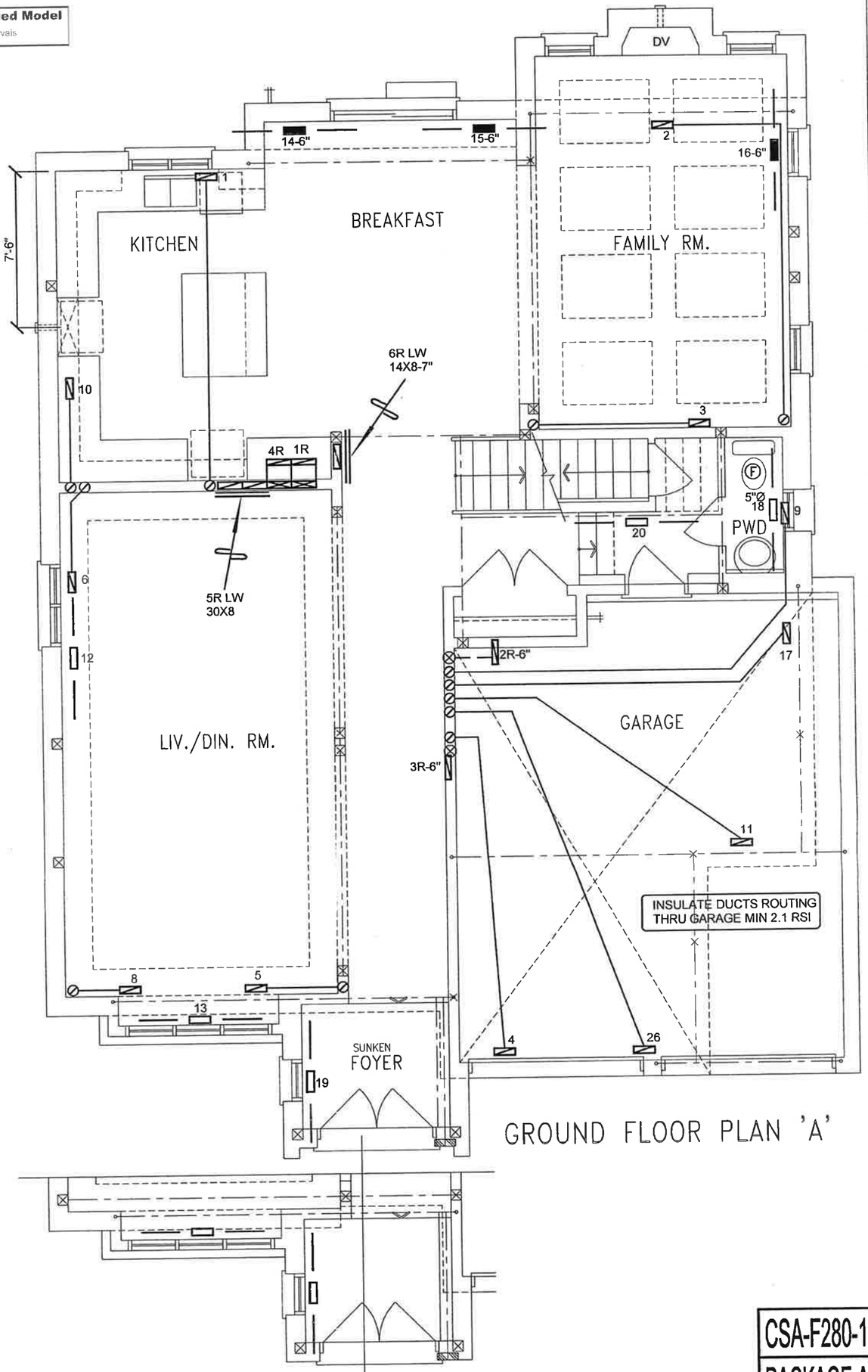

GROUND FLOOR PLAN 'A'

PARTIAL GROUND FLOOR PLAN 'B'

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
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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	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
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BAYVIEW WELLINGTON

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INNISFIL, ONTARIO

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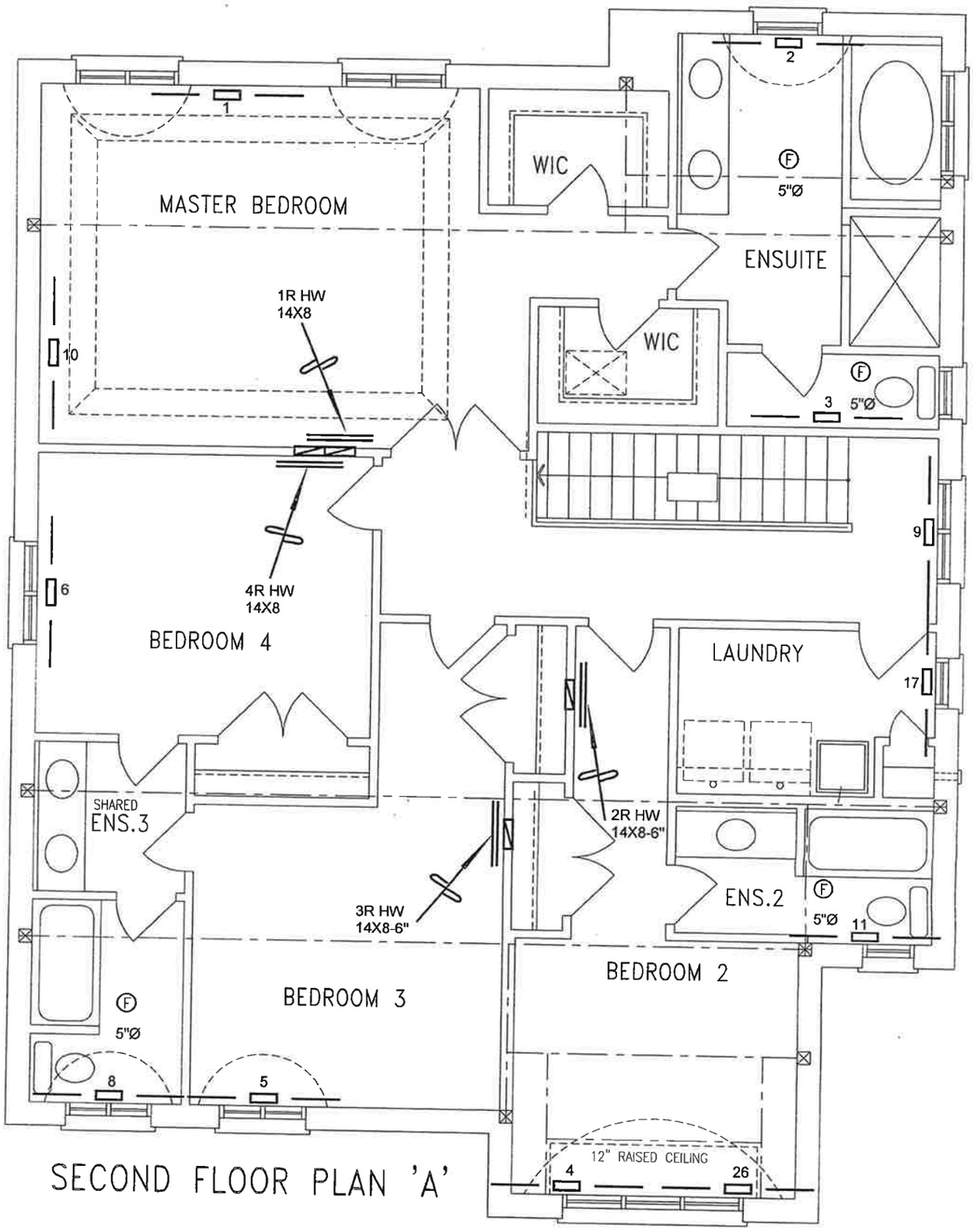
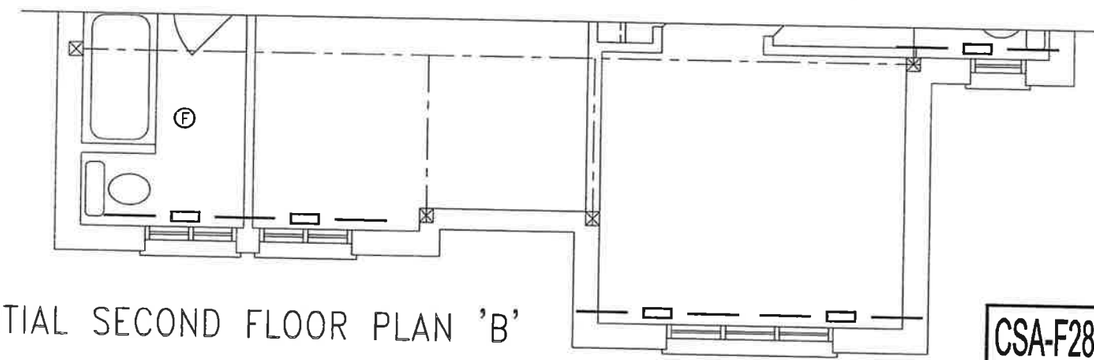
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date	JUNE/2017
Scale	3/16" = 1'-0"
	BCIN# 19669
LO#	74593

Town of Innisfil Certified Model
03/01/2018 8:45:18 AM kgervais



SECOND FLOOR PLAN 'A'



PARTIAL SECOND FLOOR PLAN 'B'

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Michael O'Rourke, HCIN# 19669
HVAC DESIGNS LTD

CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT	Ø	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

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 74593