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		Firm		
MICHAEL O'ROURKE		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
- ☐ Small Buildings
- ☐ Large Buildings
- ☐ Complex Buildings
- ☒ HVAC – House
- ☐ Building Services
- ☐ Detection, Lighting and Power
- ☐ Fire Protection
- ☐ Building Structural
- ☐ Plumbing – House
- ☐ Plumbing – All Buildings
- ☐ 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: 32-10C-15

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

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.

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

Town of Innisfil Certified Model
15/02/2018 12:54:50 PM kgervais

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON
TYPE: 32-10C-15
GFA: 2558
DATE: Jun-17
LO# 74589
WINTER NATURAL AIR CHANGE RATE 0.332
SUMMER NATURAL AIR CHANGE RATE 0.085
HEAT LOSS ΔT °F. 83
HEAT GAIN ΔT °F. 12
CSA-F280-12
SB-12 PACKAGE A1

	FACTORS LOSS	FACTORS GAIN													
ROOM USE				MBR			ENS			WIC			BED-2	
EXP. WALL				37			29			5			27	
CLG. HT.				9			9			9			9	
GRS.WALL AREA				333			261			45			243	
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	23.3	15.7	0	0	0	0	0	0	0	0	0	0	0	0
EAST	23.3	41.3	0	0	0	0	0	0	4	93	165	33	769	1362
SOUTH	23.3	24.6	20	466	492	0	0	0	0	0	0	0	0	0
WEST	23.3	41.3	24	559	991	14	326	578	0	0	0	0	0	0
SKYLT.	40.8	101.1	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	27.6	3.9	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	289	1412	200	247	1207	171	41	200	28	210	1026	146
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.4	0.6	307	431	175	204	287	116	25	35	14	165	232	94
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0	25	70	10	165	461	65
BASEMENT/CRAWL HEAT LOSS				0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0	
SUBTOTAL HT LOSS				2868			1819			398			2487	
SUB TOTAL HT GAIN					1858			865			218			1667
LEVEL FACTOR / MULTIPLIER			0.20	0.22		0.20	0.22		0.20	0.22		0.20	0.22	
AIR CHANGE HEAT LOSS				624			396			87			541	
AIR CHANGE HEAT GAIN					95			44			11			85
DUCT LOSS				0			0			49			303	
DUCT GAIN					0			0			23			248
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240
HEAT GAIN APPLIANCES/LIGHTS					491			0			0			491
TOTAL HT LOSS BTU/H				3492			2215			534			3331	
TOTAL HT GAIN x 1.3 BTU/H					3801			1182			327			3550

ROOM USE		BED-3			BED-4			BATH			ENS-2	
EXP. WALL		33			15			12			9	
CLG. HT.		10			10			9			9	
GRS.WALL AREA		330			150			108			81	
GLAZING		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	0	0	0	0	0	0	0	0	0	0	0	0
EAST	31	722	1279	0	0	0	0	0	0	0	0	0
SOUTH	40	932	985	33	769	812	25	582	615	0	0	0
WEST	0	0	0	0	0	0	0	0	0	14	326	578
SKYLT.	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	259	1265	179	117	572	81	83	405	58	67	327	46
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	97	136	55	205	288	117	72	101	41	120	169	68
NO ATTIC EXPOSED CLG	132	397	161	30	90	37	0	0	0	0	0	0
EXPOSED FLOOR	40	112	16	0	0	0	0	0	0	70	195	28
BASEMENT/CRAWL HEAT LOSS		0			0			0			0	
SLAB ON GRADE HEAT LOSS		0			0			0			0	
SUBTOTAL HT LOSS		3565			1719			1089			1018	
SUB TOTAL HT GAIN			2676			1047			714			720
LEVEL FACTOR / MULTIPLIER	0.20	0.22		0.20	0.22		0.20	0.22		0.20	0.22	
AIR CHANGE HEAT LOSS		775			374			237			221	
AIR CHANGE HEAT GAIN			136			53			36			37
DUCT LOSS		434			0			0			124	
DUCT GAIN			354			0			0			76
HEAT GAIN PEOPLE	1		240	1		240	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS			491			491			0			0
TOTAL HT LOSS BTU/H		4774			2093			1326			1363	
TOTAL HT GAIN x 1.3 BTU/H			5067			2380			976			1083

	FACTORS LOSS	FACTORS GAIN										
ROOM USE				DIN			KT/FM			LAUN	
EXP. WALL				36			66			10	
CLG. HT.				10			10			9	
GRS.WALL AREA				360			660			90	
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	23.3	15.7	0	0	0	0	0	0	0	0	0
EAST	23.3	41.3	0	0	0	0	0	0	0	0	0
SOUTH	23.3	24.6	48	1118	1162	30	699	739	0	0	0
WEST	23.3	41.3	0	0	0	95	2213	3921	0	0	0
SKYLT.	40.8	101.1	0	0	0	0	0	0	0	0	0
DOORS	27.6	3.9	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	312	1524	216	535	2614	371	90	440	62
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.4	0.6	0	0	0	0	0	0	110	155	63
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0	
SUBTOTAL HT LOSS				2642			5526			594	
SUB TOTAL HT GAIN					1398			5030			125
LEVEL FACTOR / MULTIPLIER			0.30	0.36		0.30	0.36		0.20	0.22	
AIR CHANGE HEAT LOSS				960			2008			129	
AIR CHANGE HEAT GAIN					71			256			6
DUCT LOSS				0			0			0	
DUCT GAIN					0			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					491			491			491
TOTAL HT LOSS BTU/H				3603			7534			724	
TOTAL HT GAIN x 1.3 BTU/H					2548			7510			809

ROOM USE		PWD			FOY			LIB			BAS	
EXP. WALL		7			17			35			170	
CLG. HT.		10			11			11			9	
GRS.WALL AREA		70			187			385			1020	
GLAZING		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	0	0	0	0	0	0	0	0	0	12	280	188
EAST	0	0	0	0	0	0	33	769	1362	0	0	0
SOUTH	0	0	0	45	1048	1108	42	978	1034	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	20	553	78	0	0	0	20	553	78
NET EXPOSED WALL	70	342	49	122	596	85	310	1515	215	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	0	0	0	0	0	0	510	2009	285
EXPOSED CLG	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS		0			0			0			6085	
SLAB ON GRADE HEAT LOSS		0			0			0				
SUBTOTAL HT LOSS		342			2197			3262			8926	
SUB TOTAL HT GAIN			49			1271			2611			552
LEVEL FACTOR / MULTIPLIER	0.30	0.36		0.30	0.36		0.30	0.36		0.50	0.95	
AIR CHANGE HEAT LOSS		124			798			1185			8461	
AIR CHANGE HEAT GAIN			2			65			133			28
DUCT LOSS		0			0			0			0	
DUCT GAIN			0			0			0			0
HEAT GAIN PEOPLE	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS			0			0			491			491
TOTAL HT LOSS BTU/H		466			2996			4447			17387	
TOTAL HT GAIN x 1.3 BTU/H			66			1736			4205			1391

TOTAL HEAT GAIN BTU/H: 37073
TONS: 3.09
LOSS DUE TO VENTILATION LOAD BTU/H: 3122
STRUCTURAL HEAT LOSS: 56283
TOTAL COMBINED HEAT LOSS BTU/H: 59406

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

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: 32-10C-15 DATE: Jun-17 GFA: 2558 LO# 74589

HEATING CFM	1100	COOLING CFM	1100
TOTAL HEAT LOSS	56,283	TOTAL HEAT GAIN	36,630
AIR FLOW RATE CFM	19.54	AIR FLOW RATE CFM	30.03

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
EL296UH070XE36B 70
FAN SPEED
LOW 0
MEDLOW 0
MEDIUM 995
MEDIUM HIGH 1100
HIGH 0

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 64,000
DESIGN CFM = 1100
CFM @ .6 " E.S.P.
TEMPERATURE RISE 54 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	4
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	7	8	9	10	11	12
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	DIN
RM LOSS MBH.	1.75	2.22	0.53	1.67	2.39	2.09	1.33	1.67	2.39	1.75	1.36	3.60
CFM PER RUN HEAT	34	43	10	33	47	41	26	33	47	34	27	70
RM GAIN MBH.	1.90	1.18	0.33	1.77	2.53	2.38	0.98	1.77	2.53	1.90	1.08	2.55
CFM PER RUN COOLING	57	36	10	53	76	71	29	53	76	57	33	77
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
ACTUAL DUCT LGH.	43	63	43	49	39	32	28	51	50	46	38	20
EQUIVALENT LENGTH	130	170	140	150	170	160	130	160	140	160	170	180
TOTAL EFFECTIVE LENGTH	173	233	183	199	209	192	158	211	190	206	208	200
ADJUSTED PRESSURE	0.1	0.07	0.09	0.09	0.08	0.09	0.11	0.08	0.09	0.08	0.08	0.09
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	4	5
HEATING VELOCITY (ft/min)	250	493	115	242	345	301	298	242	345	250	310	514
COOLING VELOCITY (ft/min)	419	413	115	389	558	521	333	389	558	419	379	565
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	A	D	B	B	A	D	B	D

RUN #	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	LIB	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.88	1.88	1.88	0.72	0.47	3.00	2.22	4.35	4.35	4.35	4.35
CFM PER RUN HEAT	37	37	37	14	9	59	43	85	85	85	85
RM GAIN MBH.	1.88	1.88	1.88	0.81	0.07	1.74	2.10	0.35	0.35	0.35	0.35
CFM PER RUN COOLING	56	56	56	24	2	52	63	10	10	10	10
ADJUSTED PRESSURE	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.	36	31	41	35	20	16	32	30	28	9	33
EQUIVALENT LENGTH	140	130	140	190	110	110	120	100	120	140	110
TOTAL EFFECTIVE LENGTH	176	161	181	225	130	126	152	130	148	149	143
ADJUSTED PRESSURE	0.1	0.11	0.1	0.08	0.13	0.14	0.11	0.12	0.11	0.11	0.11
ROUND DUCT SIZE	5	4	5	4	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	272	424	272	161	103	677	316	624	624	624	624
COOLING VELOCITY (ft/min)	411	642	411	275	23	597	463	73	73	73	73
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	D	B	B	A	D	D	B	A

RUN #	25	26
ROOM NAME	LIB	KT/FM
RM LOSS MBH.	2.22	1.88
CFM PER RUN HEAT	43	37
RM GAIN MBH.	2.10	1.88
CFM PER RUN COOLING	63	56
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	1	28
EQUIVALENT LENGTH	0	110
TOTAL EFFECTIVE LENGTH	1	138
ADJUSTED PRESSURE	17.2	0.12
ROUND DUCT SIZE	5	4
HEATING VELOCITY (ft/min)	316	424
COOLING VELOCITY (ft/min)	463	642
OUTLET GRILL SIZE	3X10	3X10
TRUNK	A	D

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	265	0.08	8.5	8	x	8	596	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	547	0.08	11.2	14	x	8	703	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	188	0.07	7.8	8	x	8	423	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	554	0.07	11.6	16	x	8	623	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	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	920	0.05	15.3	28	x	8	591
TRUNK Y	0	0.05	0	0	x	8	0
TRUNK Z	0	0.05	0	0	x	8	0
DROP	1100	0.05	16.3	24	x	10	660

RETURN AIR #	1	2	3	4	5	6									BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	180	75	75	360	75	180	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
ACTUAL DUCT LGH.	40	53	54	27	36	30	1	1	1	1	1	1	1	1	2
EQUIVALENT LENGTH	110	270	225	185	265	135	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	150	323	279	212	301	165	1	1	1	1	1	1	1	1	137
ADJUSTED PRESSURE	0.10	0.05	0.05	0.07	0.05	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.11
ROUND DUCT SIZE	7	6	6	9.9	6	7.2	0	0	0	0	0	0	0	0	6.4
INLET GRILL SIZE	8	8	8	8	8	8	0	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	30	14	14	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.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

Town of Innisfil Certified Model
15/02/2018 12:54:58 PM kgervais

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
15/02/2018 12:55:06 PM kgervais

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

TYPE: 32-10C-15 LO # 74589
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	5	@ 10.6 cfm	53.0	cfm
Table 9.32.3.A.		TOTAL	180.2	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	180.2	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	41.2	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
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: Michael O'Rourke
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: 19969 Michael O'Rourke MICHAEL O'ROURKE

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
15/02/2018 12:55:13 PM kgervais

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: 32-10C-15 **BUILDER:** BAYVIEW WELLINGTON
SFQT: 2558 **LO#** 74589 **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):	34238.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.20	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 57.0 ft	WIDTH: 28.0 ft	EXPOSED PERIMETER:	170.0 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	-

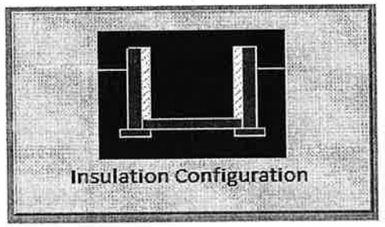
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

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):	17.4	
Floor Width (m):	8.5	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	1.1	
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):	**1783**	

TYPE: 32-10C-15
LO# 74589

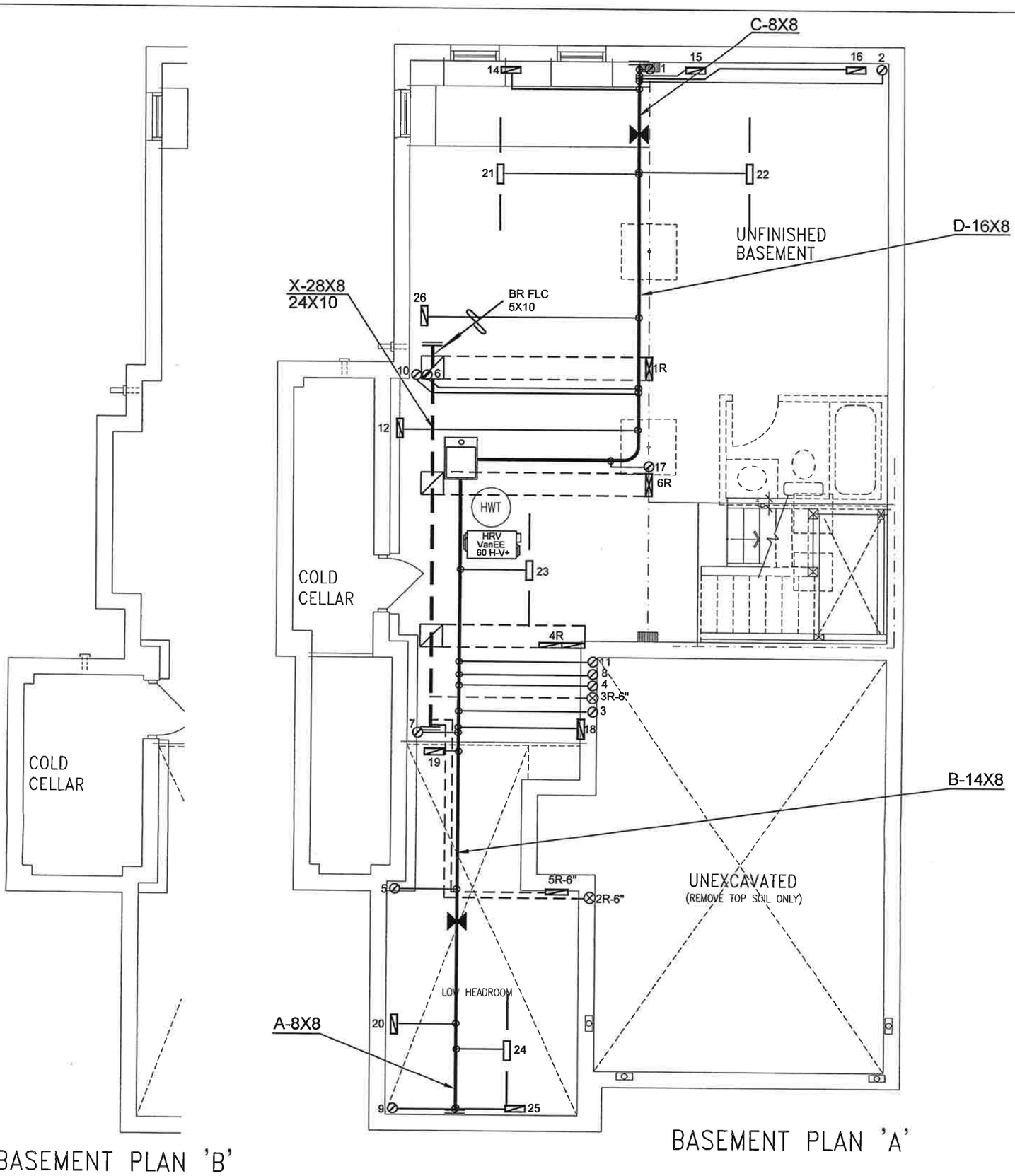
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	969.5	
Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	1292.4 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):	**0.085**	

TYPE: 32-10C-15
LO# 74589



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.		

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Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

32-10C-15 2558 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.

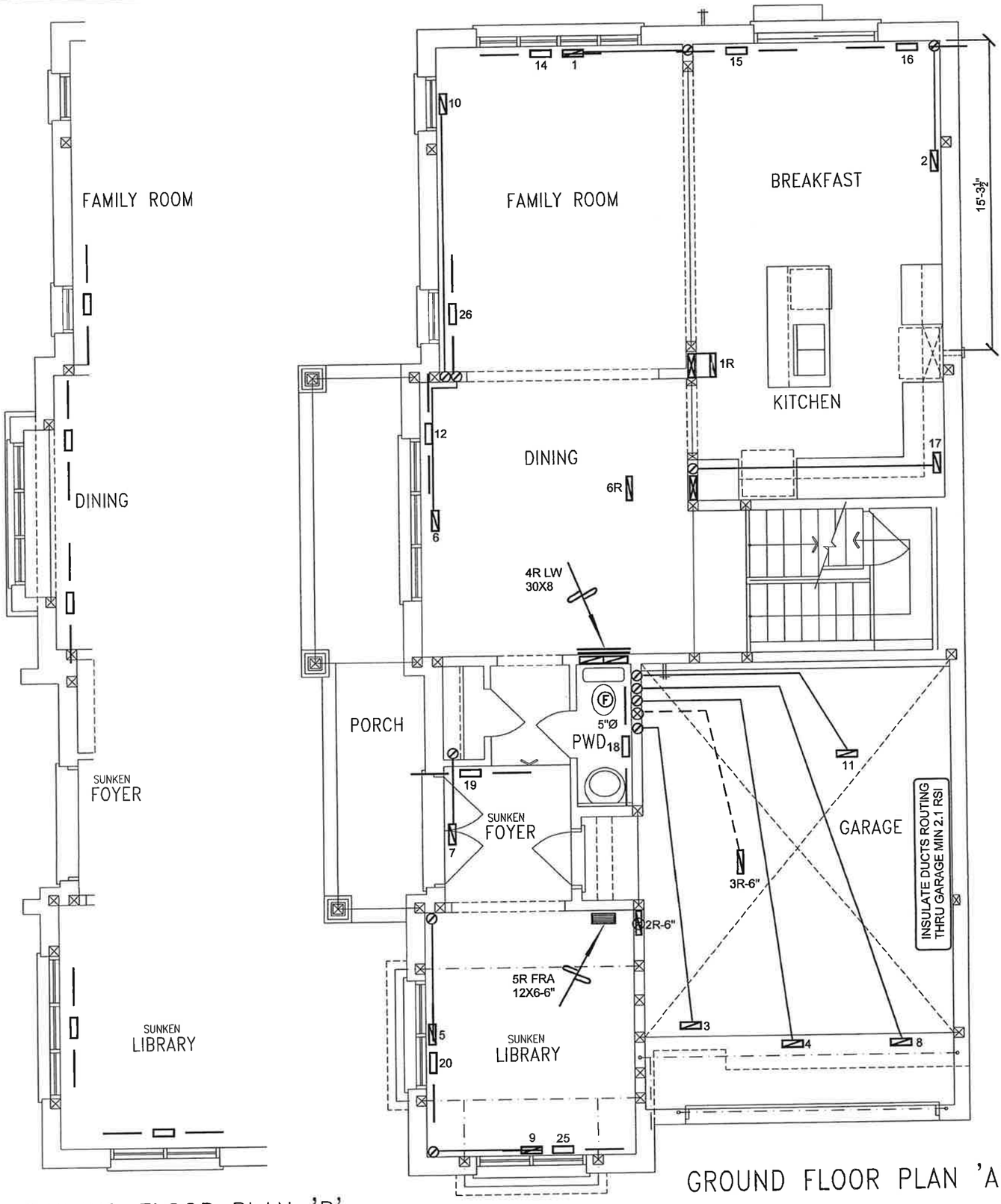
HEAT LOSS 59406 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	EL296UH070XE36B-70
INPUT	66 MBTU/H
OUTPUT	64 MBTU/H
COOLING	3.0 TONS
FAN SPEED	1100 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	12	4	4
1ST FLOOR	9	2	1
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# 74589



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CSA-F280-12
PACKAGE A1

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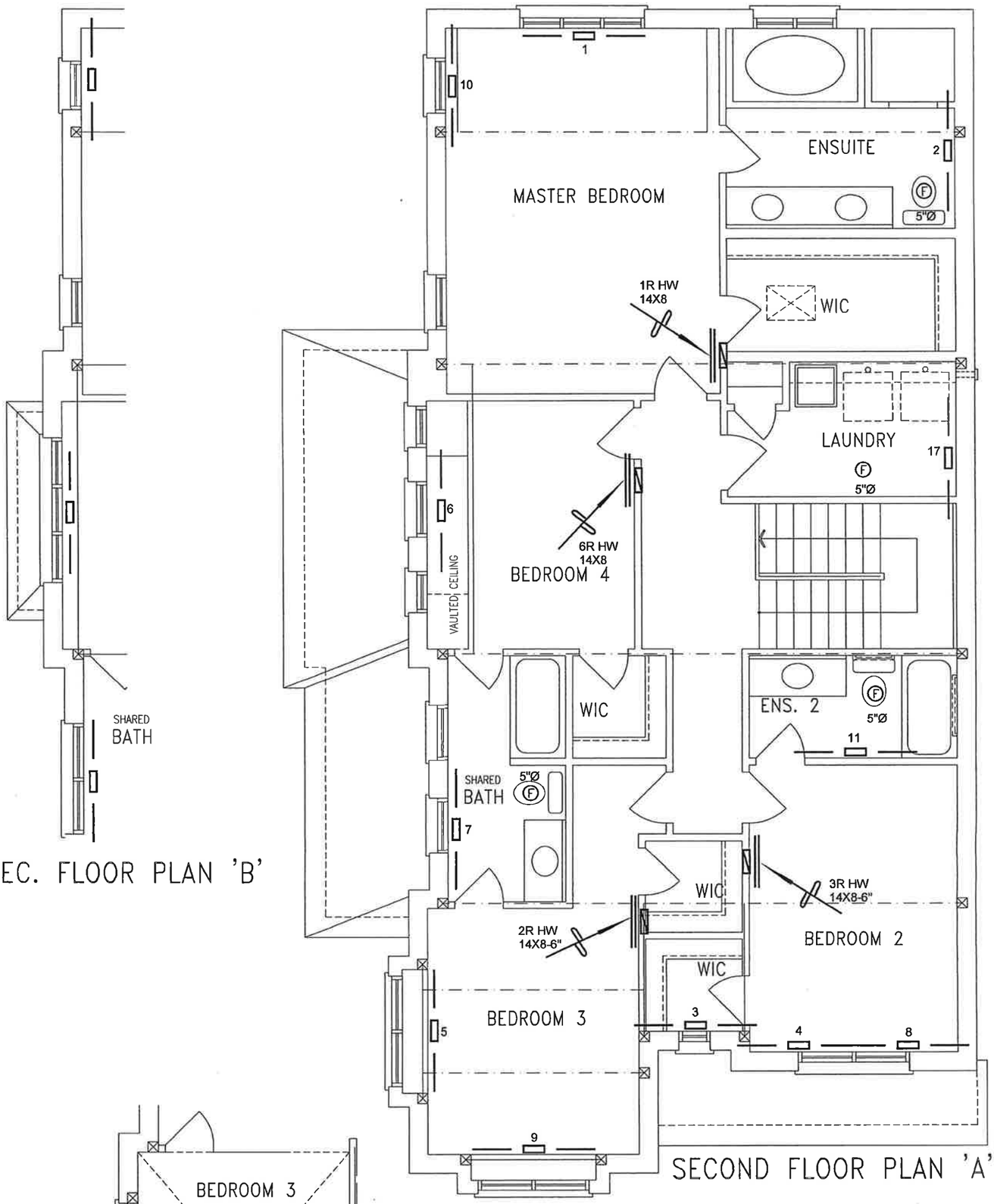
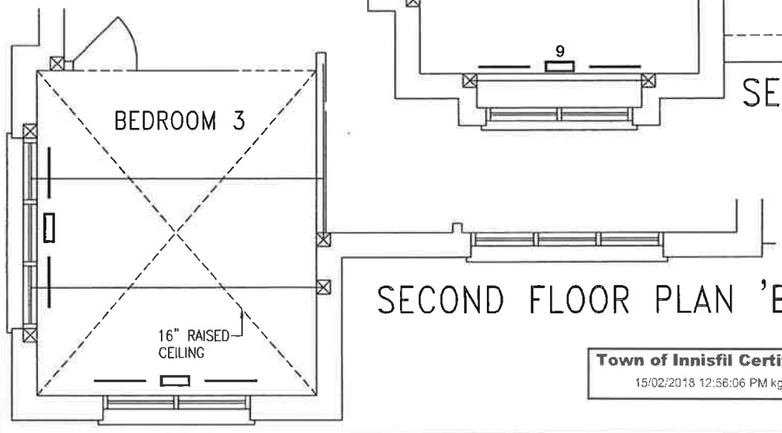
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 74589



SECOND FLOOR PLAN 'A'

SEC. FLOOR PLAN 'B'



SECOND FLOOR PLAN 'B'

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

Town of Innisfil Certified Model
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CSA-F280-12
PACKAGE A1

HVAC LEGEND

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Sheet Title
SECOND FLOOR HEATING LAYOUT

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