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**		
BRAMPTON				

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:** AUBURN 3 UNFIN BSMT **Project:** OSTIENSE

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.

August 1, 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, 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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65 Church St. South Ajax, ON L1S 6A7
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: OSTIENSE | UNFIN BSMT | DATE: Aug-17 | WINTER NATURAL AIR CHANGE RATE 0.293 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: GREENYORK HOMES | TYPE: AUBURN 3 | GFA: 2995 | LO# 75359 | SUMMER NATURAL AIR CHANGE RATE 0.104 | HEAT GAIN ΔT °F. 14 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS				BED-2			BED-3			BED-4			BATH			BED-5				ENS-2				
EXP. WALL			19			24				31			30			16			12			31				7				
CLG. HT.			9			9				9			10			10			9			10				9				
	FACTORS																													
GRS.WALL AREA	LOSS	GAIN	171			216				279			300			160			108			310				63				
GLAZING				LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		
NORTH	20.7	16.3	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		8	166	130		
EAST	20.7	41.9	32	663	1340	12	249	503		16	332	670	40	829	1676	20	414	838	0	0	0	40	829	1676		0	0	0		
SOUTH	20.7	25.2	0	0	0	8	166	202		0	0	0	0	0	0	0	0	0	8	166	202	0	0	0		0	0	0		
WEST	20.7	41.9	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
SKYLT.	20.7	86.9	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	24.6	4.7	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	4.3	0.8	139	604	114	196	852	161		263	1143	216	260	1130	214	140	608	115	100	435	82	270	1173	222		55	239	45		
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	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	1.2	0.6	330	412	201	144	180	88		298	372	181	257	321	156	244	305	148	84	105	51	196	245	119		84	105	51		
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0		0	0	0	28	75	36	0	0	0	0	0	0	48	128	62		0	0	0		
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0		0	0	0	285	708	134	126	313	59	0	0	0	0	0	0		12	30	6		
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				1079			1446				1847			3062			1641			705			2375				540			
SUB TOTAL HT GAIN					1655			953				1068			2216			1160			335			2079				232		
LEVEL FACTOR / MULTIPLIER			0.20	0.28		0.20	0.28			0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28			0.20	0.28			
AIR CHANGE HEAT LOSS				467			402				514			852			456			196			661				150			
AIR CHANGE HEAT GAIN					129			74				83			173			91			26			162				18		
DUCT LOSS				0			0				0			391			210			0			0				69			
DUCT GAIN					0			0				0			305			191			0			0				25		
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240	1		240	0		0	1		240		0		0		
HEAT GAIN APPLIANCES/LIGHTS					422			0				422			422			422			0			422				0		
TOTAL HT LOSS BTU/H				2146			1848				2360			4305			2306			901			3036				759			
TOTAL HT GAIN x 1.3 BTU/H					3493			1336				2357			4363			2736			470			3775				358		

ROOM USE			LIV				KIT/FM				LAUN			W/R			FOY			OFF				WUB			BAS		
EXP. WALL			20				69				19			14			25			26				14			170		
CLG. HT.			10				10				11			10			11			10				9			9		
	FACTORS																													
GRS.WALL AREA	LOSS	GAIN	200				690				209			140			275			260				126			1020		
GLAZING				LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN	
NORTH	20.7	16.3	0	0	0		0	0	0		16	332	261	0	0	0	0	0	0	0	0	0		0	0	0	4	83	65	
EAST	20.7	41.9	0	0	0		82	1699	3435		0	0	0	0	0	0	32	663	1340	43	891	1801		0	0	0	4	83	168	
SOUTH	20.7	25.2	42	870	1060		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	12	249	303	
WEST	20.7	41.9	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
SKYLT.	20.7	86.9	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	24.6	4.7	0	0	0		0	0	0		12	295	56	0	0	0	24	590	112	0	0	0		20	492	93	20	492	93	
NET EXPOSED WALL	4.3	0.8	158	687	130		608	2642	500		181	786	149	140	608	115	219	952	180	217	943	178		106	461	87	0	0	0	
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	510	1787	338	
EXPOSED CLG	1.2	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	
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0		8	21	10		0	0	0	0	0	0	0	0	0	14	37	18		0	0	0	0	0	0	
EXPOSED FLOOR	2.5	0.5	0	0	0		0	0	0		0	0	0	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						5783		
SLAB ON GRADE HEAT LOSS				0				0				0			0			0			0				0				
SUBTOTAL HT LOSS				1557				4362				1413			608			2205			1871				952			8476		
SUB TOTAL HT GAIN					1190				3945				466			115			1632			1998					180			967
LEVEL FACTOR / MULTIPLIER			0.30	0.46			0.30	0.46			0.30	0.46		0.30	0.46		0.30	0.46		0.30	0.46						0.50	0.98		
AIR CHANGE HEAT LOSS				719				2014				652			281			1018			864							9244		
AIR CHANGE HEAT GAIN					93				308				36			9			128			156								90
DUCT LOSS				0				638				0			0			0			0							0		
DUCT GAIN					0				468				0			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					422				422				422			0			0			422				0				0
TOTAL HT LOSS BTU/H				2275				7014				2065			889			3222			2735				952			17720		
TOTAL HT GAIN x 1.3 BTU/H					2216				6686				1201			161			2288			3349					234			1373

TOTAL HEAT GAIN BTU/H: 36394 TONS: 3.03 LOSS DUE TO VENTILATION LOAD BTU/H: 2777 STRUCTURAL HEAT LOSS: 51759 TOTAL COMBINED HEAT LOSS BTU/H: 54536

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
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SITE NAME: OSTIENSE — UNFIN BSMT
BUILDER: GREENYORK HOMES — TYPE: AUBURN 3 — DATE: Aug-17 — GFA: 2995 — LO# 75359

HEATING CFM	1030	COOLING CFM	1030	furnace pressure	0.6					#CARRIER	AFUE = 96 %	
TOTAL HEAT LOSS	54,536	TOTAL HEAT GAIN	36,394	furnace filter	0.05							
AIR FLOW RATE CFM	18.89	AIR FLOW RATE CFM	28.3	a/c coil pressure	0.2					59SP5A-60-12	60	INPUT (BTU/H) = 60,000
				available pressure						FAN SPEED		OUTPUT (BTU/H) = **58,000**
				for s/a & r/a	0.35					LOW	0	
										MEDLOW	785	DESIGN CFM = **1030**
				plenum pressure s/a	0.18	r/a pressure	0.17			MEDIUM	845	CFM @ .6 " E.S.P.
				s/a dif press. loss	0.01	r/a grille press. Loss	0.02			MEDIUM HIGH	970	
				adjusted pressure s/a	0.17	adjusted pressure r/a	0.15			HIGH	1030	TEMPERATURE RISE 52 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	8	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	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BED-3	BED-4	BATH	BED-5			ENS-2	LIV		KIT/FM	KIT/FM		LAUN	W/R	FOY	KIT/FM	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.15	1.85	2.15	2.36	2.15	2.31	0.90	3.04			0.76	2.28		2.34	2.34		2.07	0.89	3.22	2.34	4.67	4.67	4.67	4.67
CFM PER RUN HEAT	41	35	41	45	41	44	17	57			14	43		44	44		39	17	61	44	88	88	88	88
RM GAIN MBH.	3.49	1.34	2.18	2.36	2.18	2.74	0.47	3.77			0.36	2.22		2.23	2.23		1.20	0.16	2.29	2.23	0.40	0.40	0.40	0.40
CFM PER RUN COOLING	99	38	62	67	62	77	13	107			10	63		63	63		34	5	65	63	11	11	11	11
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17			0.17	0.17		0.17	0.17		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	35	20	53	50	56	44	34	49			51	33		30	30		39	42	38	45	17	13	16	32
EQUIVALENT LENGTH	130	170	120	160	110	140	140	140			180	110		110	110		160	160	150	110	130	130	130	130
TOTAL EFFECTIVE LENGTH	165	190	173	210	166	184	174	189			231	143		140	140		199	202	188	155	147	143	146	162
ADJUSTED PRESSURE	0.1	0.09	0.1	0.08	0.1	0.09	0.1	0.09			0.07	0.12		0.12	0.12		0.09	0.09	0.09	0.11	0.12	0.12	0.12	0.11
ROUND DUCT SIZE	**6**	4	5	5	5	5	4	**6**			4	4		4	4		4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	209	402	301	330	301	323	195	291			161	493		505	505		447	195	448	323	646	646	646	646
COOLING VELOCITY (ft/min)	505	436	455	492	455	565	149	546			115	723		723	723		390	57	477	463	81	81	81	81
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10			3X10	3X10		3X10	3X10		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	B	D	A	D	C	D	A			A	D		B	B		A	A	C	C	B	A	D	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			OFF																					
RM LOSS MBH.			2.74																					
CFM PER RUN HEAT			52																					
RM GAIN MBH.			3.35																					
CFM PER RUN COOLING			95																					
ADJUSTED PRESSURE			0.17																					
ACTUAL DUCT LGH.			40																					
EQUIVALENT LENGTH			140																					
TOTAL EFFECTIVE LENGTH			180																					
ADJUSTED PRESSURE			0.1																					
ROUND DUCT SIZE			5																					
HEATING VELOCITY (ft/min)			382																					
COOLING VELOCITY (ft/min)			698																					
OUTLET GRILL SIZE			3X10																					
TRUNK			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	260	0.07	8.8	9	x	8	520	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	512	0.07	11.3	14	x	8	658	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	289	0.09	8.6	8	x	8	650	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	519	0.09	10.6	13	x	8	719	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	385	0.06	10.5	13	x	8	533
TRUNK X	1030	0.06	15.2	28	x	8	662
TRUNK Y	335	0.06	10	11	x	8	548
TRUNK Z	530	0.06	11.9	16	x	8	596
DROP	1030	0.06	15.2	24	x	10	618

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	145	145	85	85	240	165	0	0	0	0	0	0	0	0	0	165
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.	51	38	64	70	44	28	1	1	1	1	1	1	1	1	1	20
EQUIVALENT LENGTH	195	185	190	185	200	145	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	246	223	254	255	244	173	1	1	1	1	1	1	1	1	1	155
ADJUSTED PRESSURE	0.06	0.07	0.06	0.06	0.06	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.3	7	6	6	8.8	6.9	0	0	0	0	0	0	0	0	0	6.8
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.

65 Church St. South Ajax, ON L1S 6A7
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: AUBURN 3 LO # 75359
SITE NAME: OSTIENSE UNFIN BSMT

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	4	@ 10.6 cfm	42.4	cfm
Kitchen & Bathrooms	5	@ 10.6 cfm	53	cfm
Other Rooms	5	@ 10.6 cfm	53.0	cfm
Table 9.32.3.A.		TOTAL	190.8	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	**95.4**	**cfm**

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	51.8	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	74 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
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: GREENYORK HOMES

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: August-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

65 Church St. South Ajax, ON L1S 6A7
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: AUBURN 3 UNFIN BSMT **BUILDER:** GREENYORK HOMES
SFQT: 2995 **LO#** 75359 **SITE:** OSTIENSE

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
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):	40525.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 46.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	0.0 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

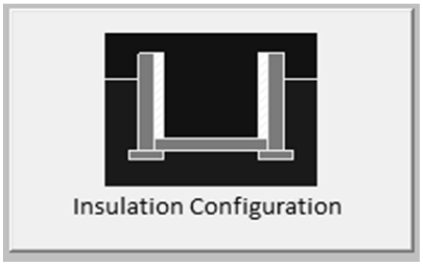
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

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

Foundation Dimensions		
Floor Length (m):	**14.0**	
Floor Width (m):	**11.9**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.8**	
Window Area (m^2):	**1.9**	
Door Area (m^2):	**3.7**	


Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**1694**	

TYPE: AUBURN 3 UNFIN BSMT
LO# 75359

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

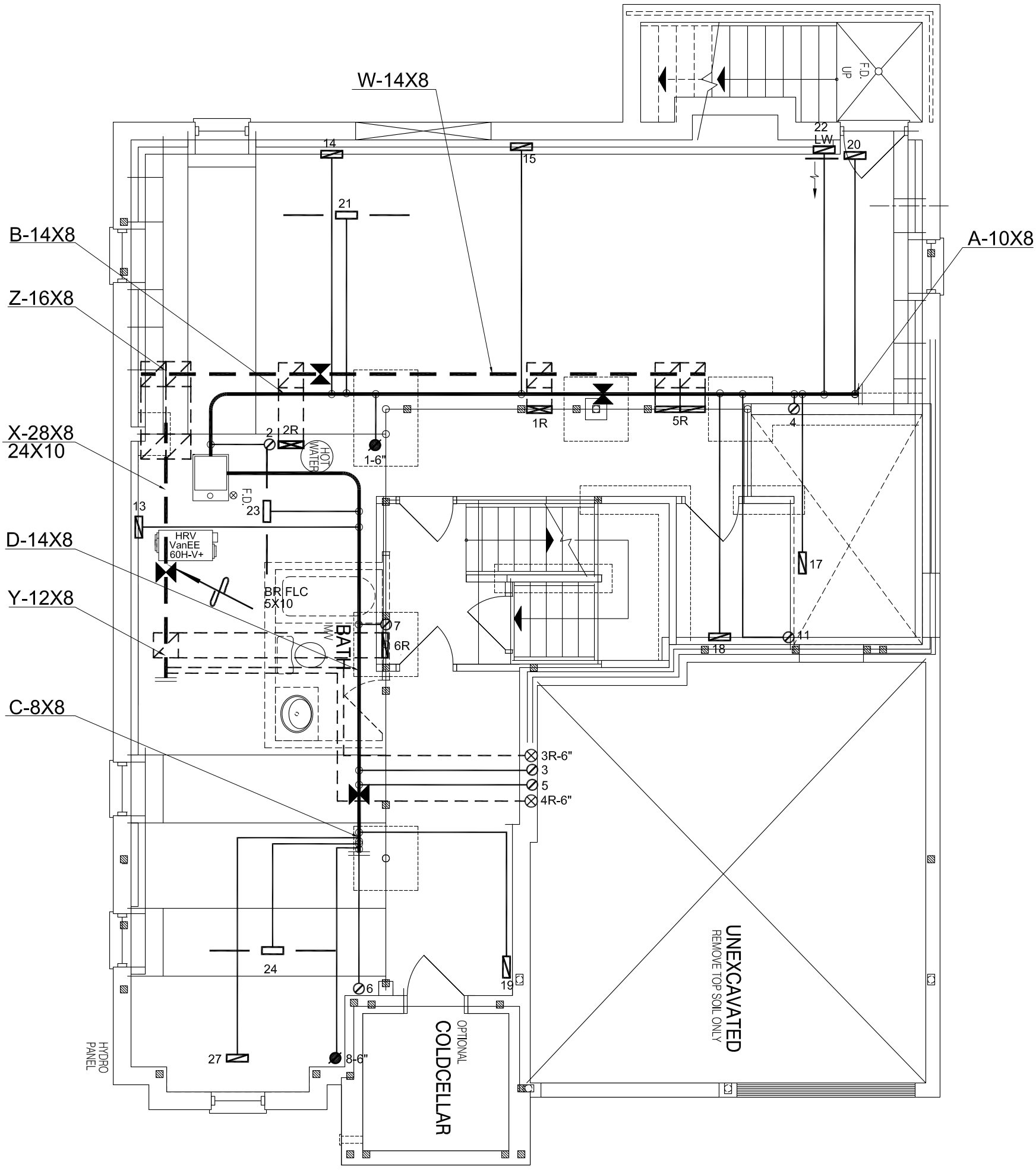
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
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):	5.79
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	1147.5
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1529.7 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):	**0.293**
Cooling Air Leakage Rate (ACH/H):	**0.104**

TYPE: AUBURN 3 UNFIN BSMT

LO# 75359



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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

ARIA COMFORT SYSTEMS

Project Name

GREENYORK HOMES
OSTIENSE
BRAMPTON, ONTARIO
UNFIN BSMT
AUBURN 3 2995 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 54536 BTU/H		
UNIT DATA		
MAKE	CARRIER	
MODEL	59SP5A-60-12	
INPUT	60	MBTU/H
OUTPUT	58	MBTU/H
COOLING	3.0	TONS
FAN SPEED	1030	cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	9	4	3
1ST FLOOR	8	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

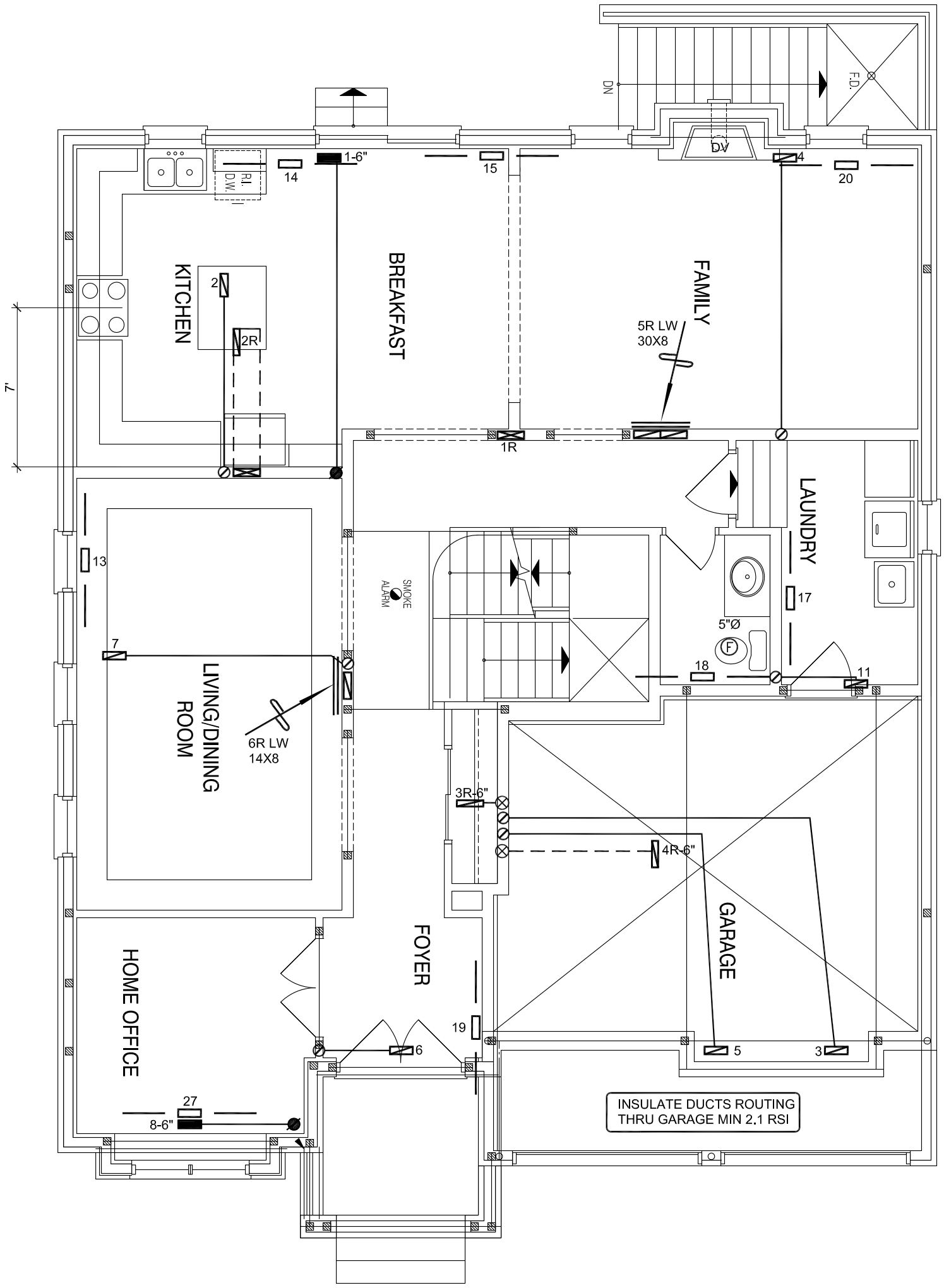
BASEMENT HEATING LAYOUT

Date AUG/2017

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 75359



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CSA-F280-12

PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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—▬—	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

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OSTIENSE
BRAMPTON, ONTARIO
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AUBURN 3 2995 sqft

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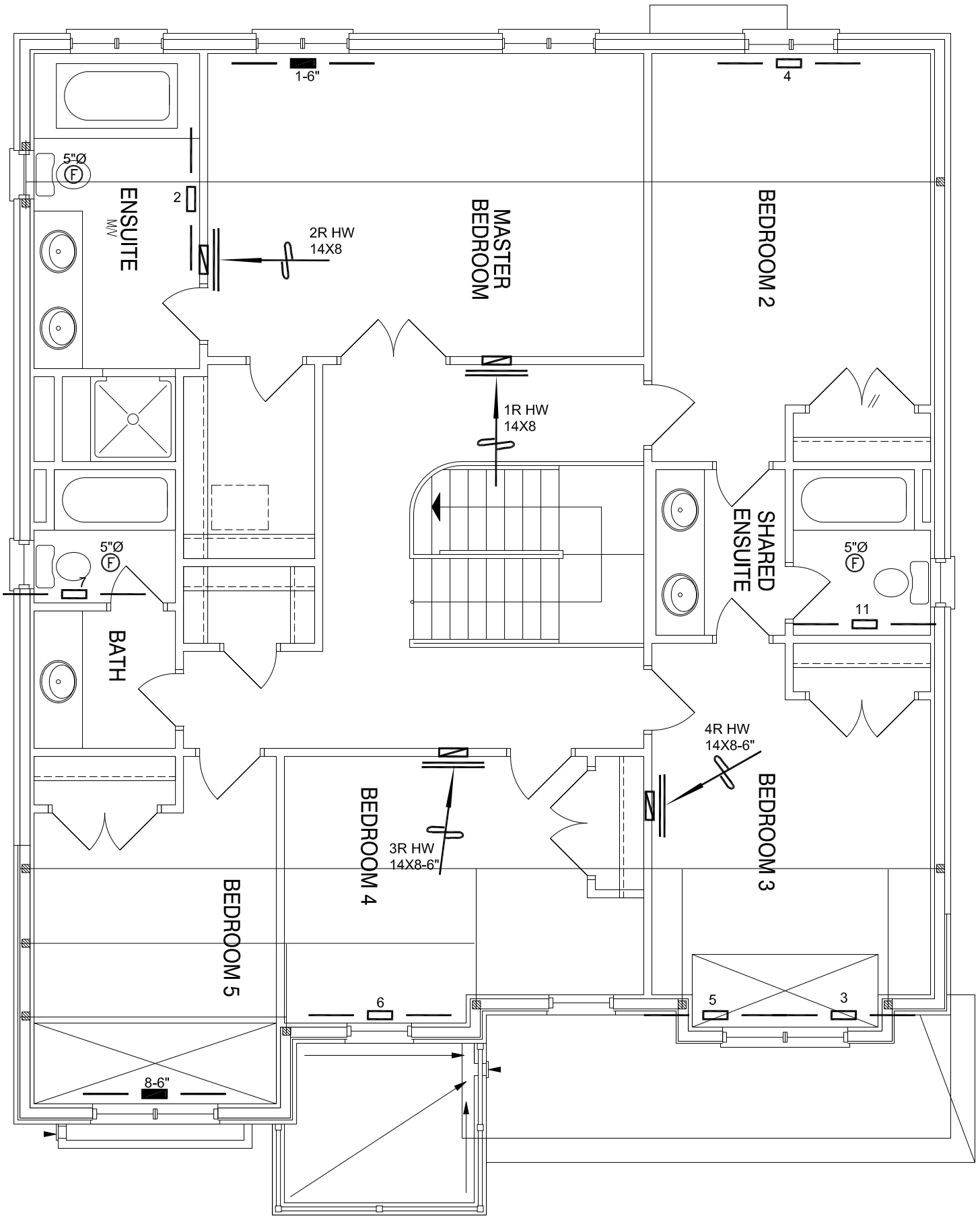
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date AUG/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 75359



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CSA-F280-12

PACKAGE A1

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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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REVISIONS

Client
ARIA COMFORT SYSTEMS

Project Name
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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date AUG/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 75359