

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 HAMILTON	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@hvacdsgns.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: ROSEWOOD 3 Project: RUSSEL GARDEN		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> (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 Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
☐ 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.				
July 24, 2017 Date		 Signature of Designer		

NOTE:

- 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.
- 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: RUSSEL GARDEN BUILDER: GREENPARK HOMES TYPE: ROSEWOOD 3 DATE: Jul-17 LO# 75068 GFA: 2858 WINTER NATURAL AIR CHANGE RATE 0.310 HEAT LOSS AT °F. 71 CSA-F280-12 SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	ENR	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	HEAT GAIN AT °F. 16
GRS.WALL AREA	488	216	63	24	7	12	15	399	198	54	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	0	0	0	0	0	0	0	0	0	0	
EAST	36	712	1526	16	316	678	0	0	0	0	
SOUTH	19.8	25.7	0	0	0	0	0	0	0	0	
WEST	19.8	42.4	0	0	0	0	0	0	0	0	
SKYL.T.	34.6	103.0	0	0	0	0	0	0	0	0	
DOORS	23.5	5.2	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.1	0.9	432	1791	401	200	829	186	63	261	
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	
EXPOSED CLG	687	795	426	143	170	91	98	117	63	156	
NO ATTIC EXPOSED CLG	2.5	1.4	0	0	0	0	0	0	0	0	
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS	3298	1316	378	955	0.20	0.24	0.20	0.24	0.20	0.24	
SUB TOTAL HT GAIN	2353	1316	378	955	0.20	0.24	0.20	0.24	0.20	0.24	
LEVEL FACTOR / MULTIPLIER	804	321	92	111	132	183	273	240	1	240	
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN PEOPLE	240	240	240	240	240	240	240	240	240	240	
HEAT GAIN APPLIANCES/LIGHTS	882	882	882	882	882	882	882	882	882	882	
TOTAL HT LOSS BTU/H	4102	1637	470	176	1455	2621	2438	3438	1848	412	
TOTAL HT GAIN x 1.3 BTU/H	5185	1386	176	176	2621	2621	2438	3438	1848	412	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LIV	KT/FM	LAUN	WIR	FOY	WOD	BAS	LOSS GAIN
GRS.WALL AREA	380	380	380	380	380	380	380	380	380	380	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	0	0	0	0	0	0	0	0	0	0	
EAST	0	0	0	0	0	0	0	0	0	0	
SOUTH	0	0	0	0	0	0	0	0	0	0	
WEST	27	534	1145	70	1384	2967	0	0	0	0	
SKYL.T.	19.8	42.4	0	0	0	0	0	0	0	0	
DOORS	23.5	5.2	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.1	0.9	353	1463	328	680	2819	631	0	0	
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	
NO ATTIC EXPOSED CLG	2.6	1.4	10	26	14	0	0	0	0	0	
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS	2023	1486	4697	3717	0.30	0.44	0.30	0.44	0.30	0.44	
SUB TOTAL HT GAIN	1486	1486	4697	3717	0.30	0.44	0.30	0.44	0.30	0.44	
LEVEL FACTOR / MULTIPLIER	889	889	889	889	889	889	889	889	889	889	
AIR CHANGE HEAT LOSS	173	173	173	173	173	173	173	173	173	173	
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN PEOPLE	240	240	240	240	240	240	240	240	240	240	
HEAT GAIN APPLIANCES/LIGHTS	882	882	882	882	882	882	882	882	882	882	
TOTAL HT LOSS BTU/H	2912	1637	470	176	1455	2621	2438	3438	1848	412	
TOTAL HT GAIN x 1.3 BTU/H	3302	1386	176	176	2621	2621	2438	3438	1848	412	

TOTAL HEAT GAIN BTU/H: 34484 TONS: 2.87 LOSS DUE TO VENTILATION LOAD BTU/H: 2650 STRUCTURAL HEAT LOSS: 46506 TOTAL COMBINED HEAT LOSS BTU/H: 49156

SITE NAME: RUSSEL GARDEN				TYPE: ROSEWOOD 3				DATE: Jul-17				GFA: 2858 LO# 75068			
BUILDING: GREENPARK HOMES				furnace pressure 0.6											
				a/c coil pressure 0.2											
				available pressure for s/a & r/a 0.35											
				plenum pressure s/a 0.18											
				max s/a diff press. loss 0.03											
				min adjusted pressure s/a 0.15											
				r/a grille press. Loss 0.02											
				adjusted pressure r/a 0.15											

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-4	BED-3	MBR	ENS-2	LIV	KT/FM	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	2.05	1.64	0.47	1.46	1.22	1.72	1.85	1.72	1.22	2.05	0.41	2.91	2.25	2.25	2.25	2.25	1.94	0.60	2.50	4.00	4.00	4.00	4.00	4.00
CFM PER RUN HEAT	50	40	11	35	30	42	45	42	30	50	10	71	55	55	55	55	47	15	61	97	97	97	97	97
RM GAIN MBH	2.59	1.39	0.18	2.62	1.95	2.63	1.15	2.63	1.95	2.59	0.16	3.30	2.18	2.18	2.18	2.18	0.78	0.13	0.89	0.60	0.60	0.60	0.60	0.60
CFM PER RUN COOLING	87	46	6	87	65	88	38	88	65	87	5	110	73	73	73	73	26	4	30	20	20	20	20	20
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	53	44	39	41	36	56	51	51	40	34	26	42	35	25	42	43	4	31	42	36	23	38	16	16
EQUIVALENT LENGTH	150	140	140	190	160	160	180	130	170	120	140	190	150	190	150	190	80	150	140	180	180	190	160	160
TOTAL EFFECTIVE LENGTH	203	184	179	231	196	216	231	181	210	154	166	232	185	215	192	223	84	181	176	203	228	176	176	176
ADJUSTED PRESSURE	0.08	0.09	0.1	0.07	0.09	0.08	0.07	0.09	0.08	0.11	0.1	0.07	0.09	0.09	0.08	0.09	0.08	0.2	0.1	0.09	0.08	0.07	0.09	0.09
ROUND DUCT SIZE	6	4	4	6	5	5	5	5	5	5	4	6	5	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	255	459	126	178	220	214	330	308	220	367	115	362	404	404	404	404	539	172	448	495	495	495	495	495
COOLING VELOCITY (ft/min)	444	528	69	444	477	449	279	646	477	639	57	561	536	536	536	536	298	46	220	102	102	102	102	102
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	B	B	E	E	D	E	D	E	C	E	D	A	B	B	B	B	B	D	A	A	A	B	D

ROOM NAME	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	TRUNK A	TRUNK B	TRUNK C	TRUNK D	TRUNK E	TRUNK F	TRUNK G	TRUNK H	TRUNK I	TRUNK J	TRUNK K	TRUNK L	TRUNK M	TRUNK N	TRUNK O	TRUNK P	TRUNK Q	TRUNK R	TRUNK S	TRUNK T	TRUNK U	TRUNK V	TRUNK W	TRUNK X
RM LOSS MBH	2.05	1.64	0.47	1.46	1.22	1.72	1.85	1.72	1.22	2.05	0.41	2.91	2.25	2.25	2.25	2.25	1.94	0.60	2.50	4.00	4.00	4.00	4.00	4.00
CFM PER RUN HEAT	50	40	11	35	30	42	45	42	30	50	10	71	55	55	55	55	47	15	61	97	97	97	97	97
RM GAIN MBH	2.59	1.39	0.18	2.62	1.95	2.63	1.15	2.63	1.95	2.59	0.16	3.30	2.18	2.18	2.18	2.18	0.78	0.13	0.89	0.60	0.60	0.60	0.60	0.60
CFM PER RUN COOLING	87	46	6	87	65	88	38	88	65	87	5	110	73	73	73	73	26	4	30	20	20	20	20	20
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	53	44	39	41	36	56	51	51	40	34	26	42	35	25	42	43	4	31	42	36	23	38	16	16
EQUIVALENT LENGTH	150	140	140	190	160	160	180	130	170	120	140	190	150	190	150	190	80	150	140	180	180	190	160	160
TOTAL EFFECTIVE LENGTH	203	184	179	231	196	216	231	181	210	154	166	232	185	215	192	223	84	181	176	203	228	176	176	176
ADJUSTED PRESSURE	0.08	0.09	0.1	0.07	0.09	0.08	0.07	0.09	0.08	0.11	0.1	0.07	0.09	0.09	0.08	0.09	0.08	0.2	0.1	0.09	0.08	0.07	0.09	0.09
ROUND DUCT SIZE	6	4	4	6	5	5	5	5	5	5	4	6	5	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	255	459	126	178	220	214	330	308	220	367	115	362	404	404	404	404	539	172	448	495	495	495	495	495
COOLING VELOCITY (ft/min)	444	528	69	444	477	449	279	646	477	639	57	561	536	536	536	536	298	46	220	102	102	102	102	102
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	B	B	E	E	D	E	D	E	C	E	D	A	B	B	B	B	B	D	A	A	A	B	D

ROOM NAME	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	TRUNK A	TRUNK B	TRUNK C	TRUNK D	TRUNK E	TRUNK F	TRUNK G	TRUNK H	TRUNK I	TRUNK J	TRUNK K	TRUNK L	TRUNK M	TRUNK N	TRUNK O	TRUNK P	TRUNK Q	TRUNK R	TRUNK S	TRUNK T	TRUNK U	TRUNK V	TRUNK W	TRUNK X
RM LOSS MBH	2.05	1.64	0.47	1.46	1.22	1.72	1.85	1.72	1.22	2.05	0.41	2.91	2.25	2.25	2.25	2.25	1.94	0.60	2.50	4.00	4.00	4.00	4.00	4.00
CFM PER RUN HEAT	50	40	11	35	30	42	45	42	30	50	10	71	55	55	55	55	47	15	61	97	97	97	97	97
RM GAIN MBH	2.59	1.39	0.18	2.62	1.95	2.63	1.15	2.63	1.95	2.59	0.16	3.30	2.18	2.18	2.18	2.18	0.78	0.13	0.89	0.60	0.60	0.60	0.60	0.60
CFM PER RUN COOLING	87	46	6	87	65	88	38	88	65	87	5	110	73	73	73	73	26	4	30	20	20	20	20	20
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	53	44	39	41	36	56	51	51	40	34	26	42	35	25	42	43	4	31	42	36	23	38	16	16
EQUIVALENT LENGTH	150	140	140	190	160	160	180	130	170	120	140	190	150	190	150	190	80	150	140	180	180	190	160	160
TOTAL EFFECTIVE LENGTH	203	184	179	231	196	216	231	181	210	154	166	232	185	215	192	223	84	181	176	203	228	176	176	176
ADJUSTED PRESSURE	0.08	0.09	0.1	0.07	0.09	0.08	0.07	0.09	0.08	0.11	0.1	0.07	0.09	0.09	0.08	0.09	0.08	0.2	0.1	0.09	0.08	0.07	0.09	0.09
ROUND DUCT SIZE	6	4	4	6	5	5	5	5	5	5	4	6	5	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	255	459	126	178	220	214	330	308	220	367	115	362	404	404	404	404	539	172	448	495	495	495	495	495
COOLING VELOCITY (ft/min)	444	528	69	444	477	449	279	646	477	639	57	561	536	536	536	536	298	46	220	102	102	102	102	102
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	B	B	E	E	D	E	D	E	C	E	D	A	B	B	B	B	B	D	A	A	A	B	D

TYPE: ROSEWOOD 3
SITE NAME: RUSSEL GARDEN

LO # 75068

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	2 @ 10.6 cfm	21.2 cfm
Table 9.32.3.A.	TOTAL	148.4 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	148.4	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	9.4	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		$\Delta T \cdot F$		FACTOR	% LOSS
139.0 CFM	X	71 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: GREENPARK 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	July-17

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** ROSEWOOD 3**BUILDER:** GREENPARK HOMES**SFQT:** 2858**LO#** 75068**SITE:** RUSSEL GARDEN**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
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 (ft³):	38282.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 54.0 ft	WIDTH: 35.0 ft	EXPOSED PERIMETER:	178.0 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	29.80
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	-

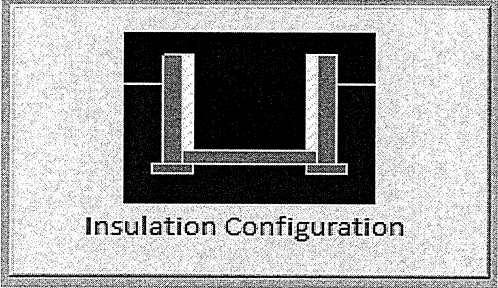
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.5	 Insulation Configuration
Floor Width (m):	10.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.0	
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):	1722	

TYPE: ROSEWOOD 3
LO# 75068

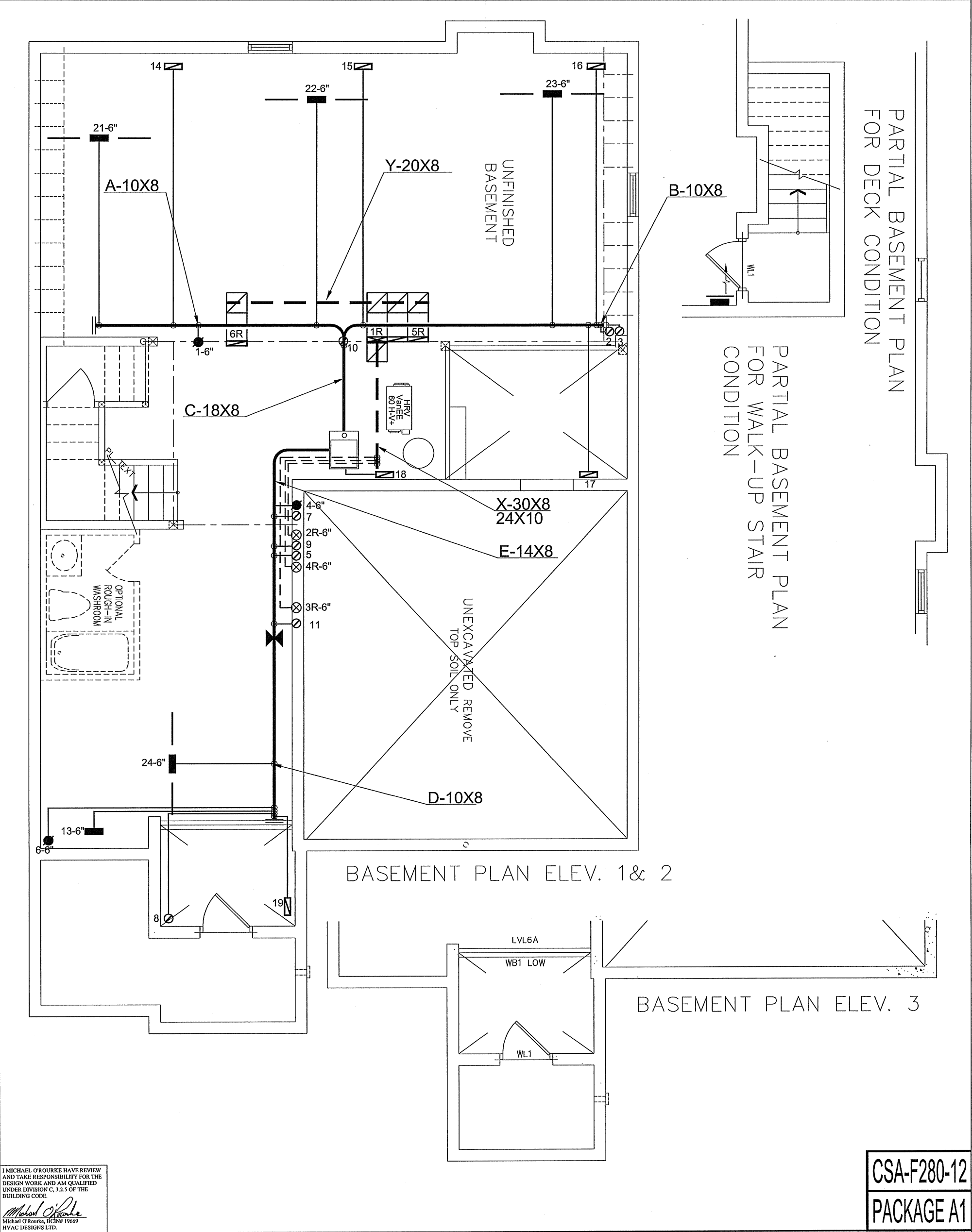
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

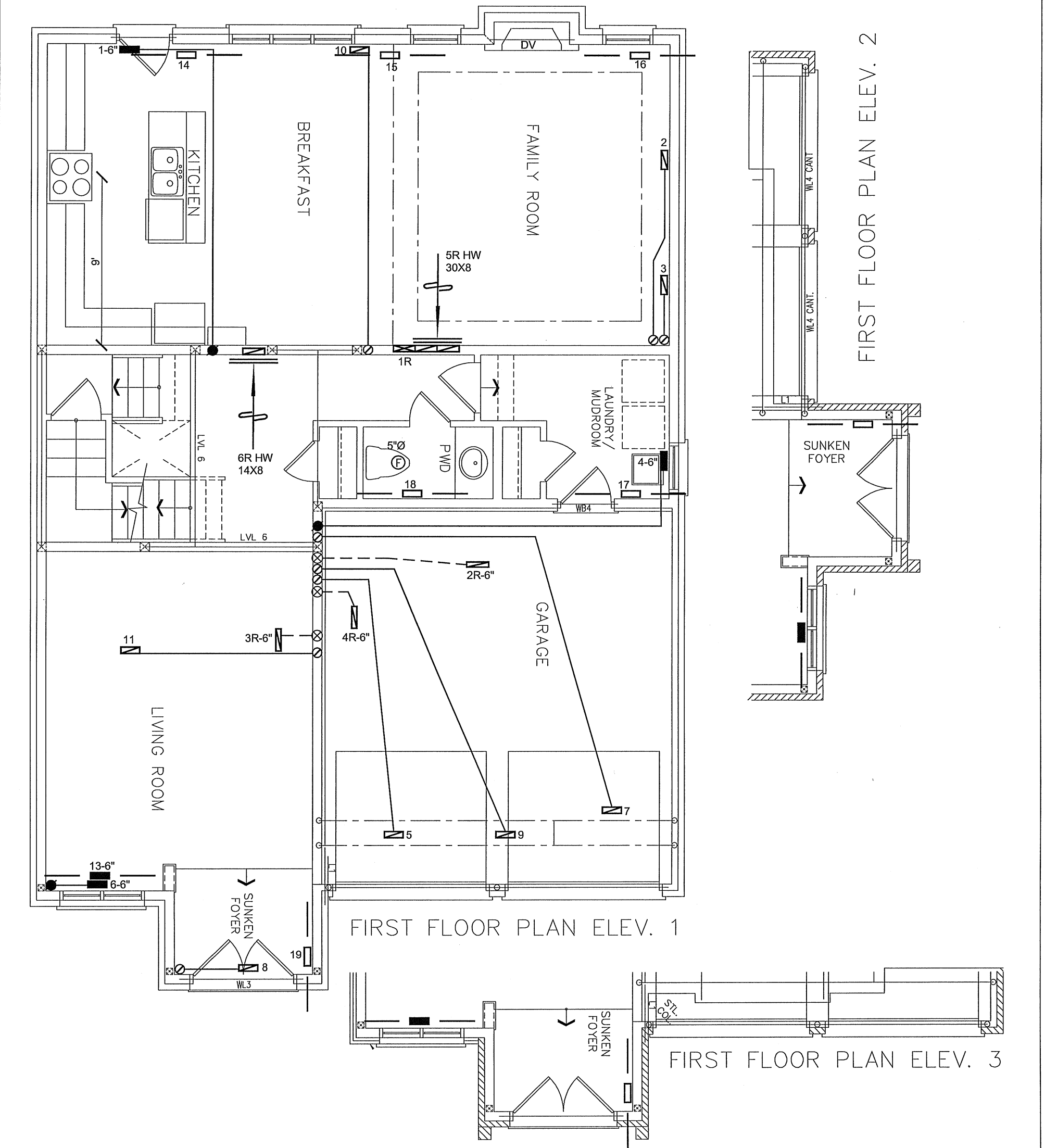
Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1084.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1445.0 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):	0.310			
Cooling Air Leakage Rate (ACH/H):	0.120			

TYPE: ROSEWOOD 3

LO# 75068



HVAC LEGEND							3.						
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.					
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.					
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description				
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS					
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Client		HVACDESIGNS 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 49156 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
Project Name GREENPARK HOMES RUSSEL GARDENS HAMILTON, ONTARIO ROSEWOOD 3 2858 sqft						MAKE GOODMAN		3RD FLOOR			BASEMENT HEATING LAYOUT		
						MODEL GMEC960603BNA-60		2ND FLOOR			13	4	3
						INPUT 60 MBTU/H		1ST FLOOR			7	2	2
						OUTPUT 57.6 MBTU/H		BASEMENT			4	1	0
						COOLING 3.0 TONS		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			Date JULY/2017		
FAN SPEED 1131 cfm @ 0.6" w.c.					Scale 3/16" = 1'-0"			BCIN# 19669					
						LO#			75068				



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

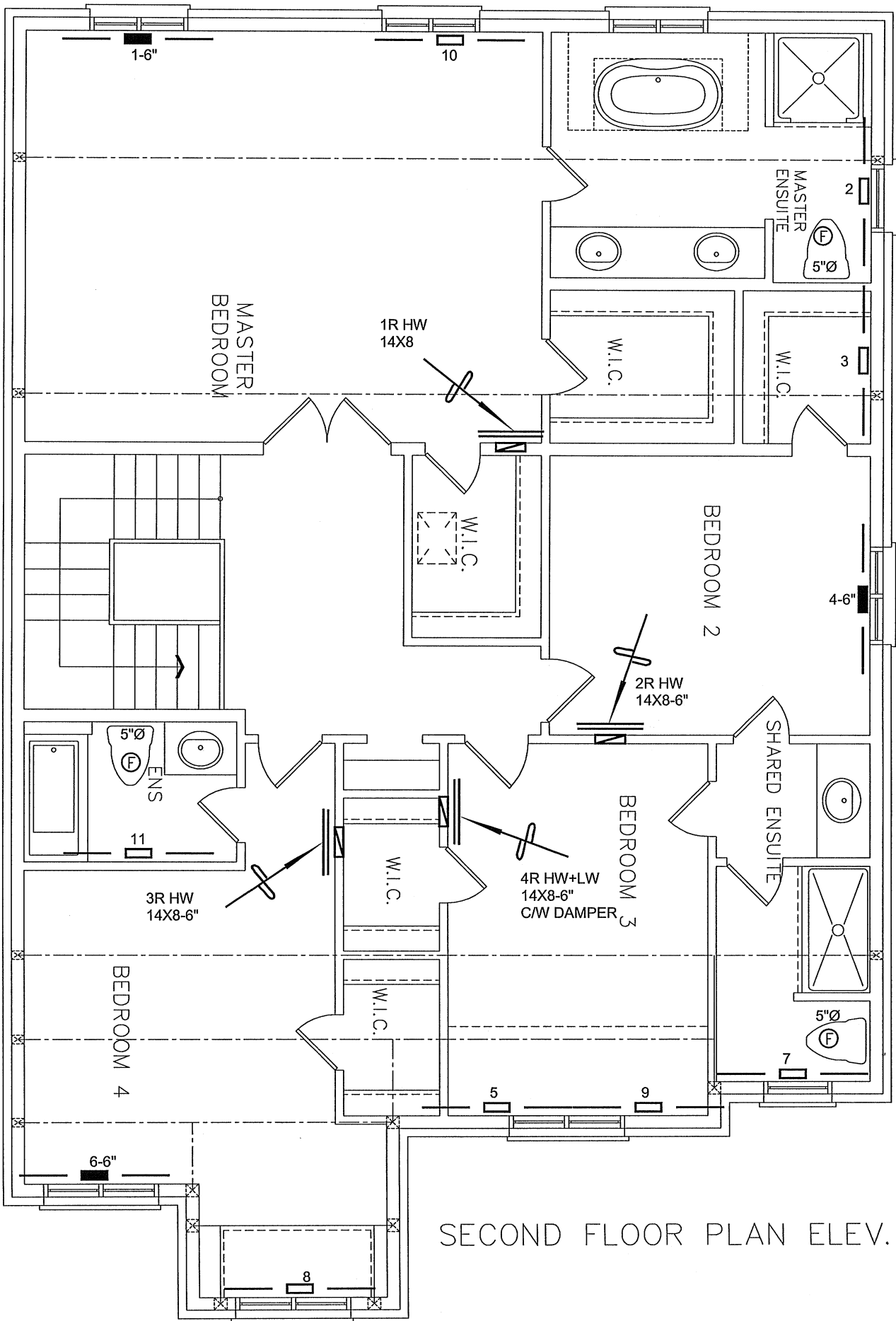
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

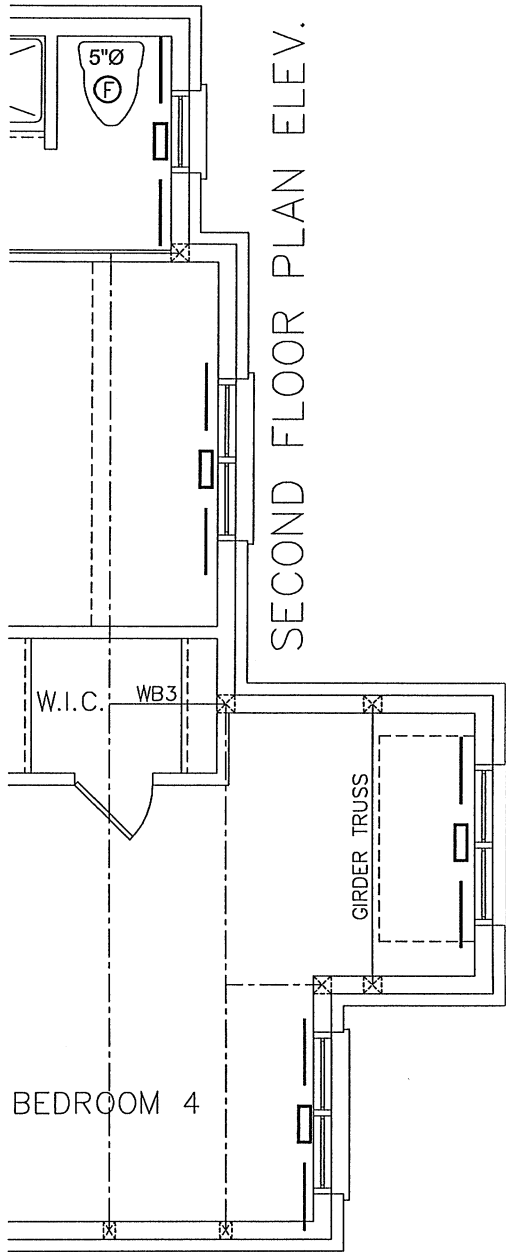
HVAC LEGEND							3.		
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	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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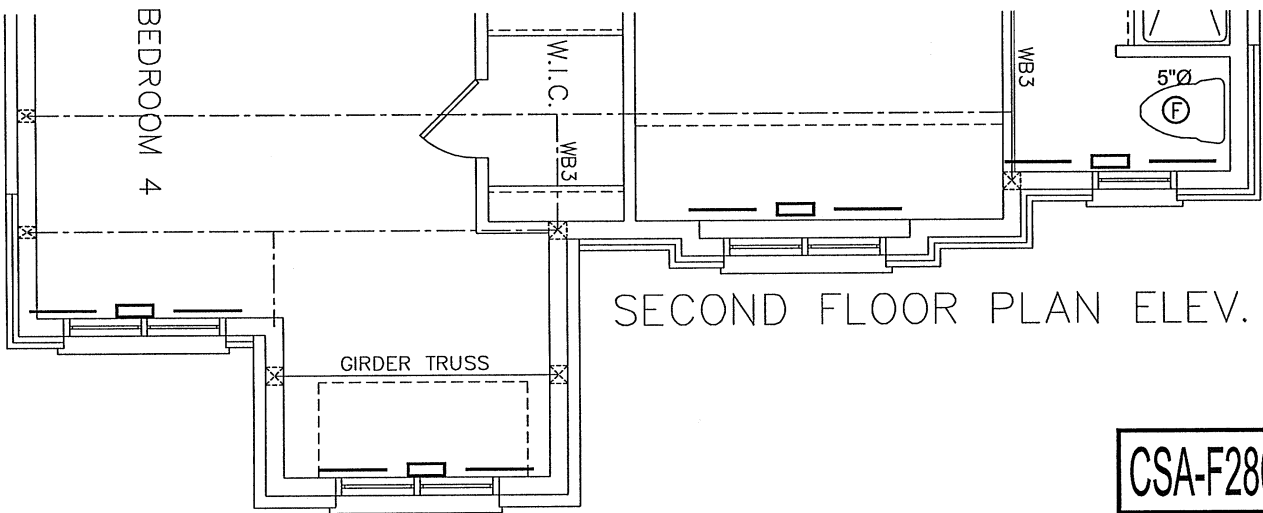
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JULY/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 3 2858 sqft			BCIN# 19669	
		LO#	75068	



SECOND FLOOR PLAN ELEV. 1



SECOND FLOOR PLAN ELEV. 2



SECOND FLOOR PLAN ELEV. 3

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

CSA-F280-12
PACKAGE A1

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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JULY/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 3 2858 sqft			BCIN# 19669	
		LO#	75068	