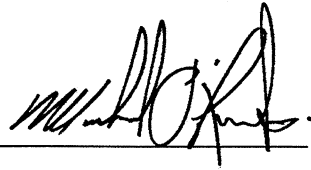


Schedule 1: Designer Information

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 VAUGHAN	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 ☐ 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: 42-3 Project: KLEINBURG GLEN		
D. Declaration of Designer				
I <u>MICHAEL O'ROURKE</u> 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 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.				
<u>January 26, 2016</u> 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.

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES
DATE: Jan-16
LO# 66899
WINTER NATURAL AIR CHANGE RATE 0.322
SUMMER NATURAL AIR CHANGE RATE 0.098
HEAT LOSS AT °F 76
HEAT GAIN AT °F 16
CSA-F280-J
SB-12 PACKAGE J

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	TYPE 42-3	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	MUD
GRS.WALL AREA GLAZING	370	252	63	144	252	108	63	108	108	88
FACTORS	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	24.1 17.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
EAST	24.1 43.0	32 771 1377	0 0 0	0 0 0	0 0 0	16 385 279	7 189 122	0 0 0	0 0 0	0 0 0
SOUTH	24.1 26.4	0 0 0	0 0 0	16 385 422	0 0 0	0 0 0	0 0 0	6 145 158	0 0 0	0 0 0
WEST	24.1 43.0	0 0 0	0 0 0	0 0 0	46 1108 1980	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SKYL.T.	24.1 88.1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DOORS	25.2 6.3	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
NET EXPOSED WALL	3.5 0.7	338 1168 246	63 218 46	128 442 93	206 712 150	92 318 67	56 193 41	102 352 74	68 235 49	106
NET EXPOSED B-SMT WALL ABOVE GR	6.3 1.3	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
EXPOSED CLG	1.5 0.8	338 511 255	98 149 74	288 438 219	194 295 147	142 216 108	119 181 90	240 365 182	0 0 0	0 0 0
NO A-TTIC EXPOSED CLG	2.5 1.2	0 0 0	0 0 0	0 0 0	0 0 0	44 108 64	0 0 0	0 0 0	0 0 0	0 0 0
EXPOSED FLOOR	2.5 0.5	0 0 0	0 0 0	0 0 0	194 476 100	0 0 0	100 245 52	0 0 0	0 0 0	0 0 0
BASEMENT/CRAWL HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SLAB ON GRADE HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SUBTOTAL HT LOSS	2449	1891	367	1265	2590	1027	788	862	415	740
SUB TOTAL HT GAIN	1878	1276	120	734	2377	508	305	0.20 0.26	0.30 0.48	156
LEVEL FACTOR / MULTIPLIER	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.30 0.48
AIR CHANGE HEAT LOSS	646	499	97	334	863	271	208	227	357	367
AIR CHANGE HEAT GAIN	106	72	7	42	135	29	100	23	9	9
DUCT LOSS	0	0	0	0	327	0	100	0	0	0
DUCT GAIN	0	0	0	0	343	0	32	0	0	0
HEAT GAIN PEOPLE	240	480	0	1	240	1	240	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	673	673	0	673	673	673	673	0	0	673
TOTAL HT LOSS BTU/H	3095	2389	463	1599	3601	1298	1096	1089	570	1097
TOTAL HT GAIN x 1.3 BTU/H	4078	1753	165	2196	4898	1885	461			1089

ROOM USE EXP. WALL CLG. HT.	LIV/DIN	KT/GR	DEN	LAUN	WIR	FOY	WIC-2	BAS
GRS.WALL AREA GLAZING	300	710	240	360	60	480	45	1104
FACTORS	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	24.1 17.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	3 72 52
EAST	24.1 43.0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	3 72 129
SOUTH	24.1 26.4	40 964 1055	0 0 0	8 193 211	6 145 158	0 0 0	0 0 0	9 217 237
WEST	24.1 43.0	0 0 0	0 0 0	60 1446 2582	0 0 0	22 530 947	9 217 387	0 0 0
SKYL.T.	24.1 88.1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DOORS	25.2 6.3	0 0 0	0 0 0	0 0 0	0 0 0	22 555 117	0 0 0	0 0 0
NET EXPOSED WALL	3.5 0.7	674 1983 417	216 746 157	292 1009 212	64 187 39	438 1608 317	36 124 26	20 506 106
NET EXPOSED B-SMT WALL ABOVE GR	6.3 1.3	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
EXPOSED CLG	1.5 0.8	0 0 0	0 0 0	232 353 176	0 0 0	0 0 0	40 61 30	552 3486 736
NO A-TTIC EXPOSED CLG	2.5 1.2	0 0 0	0 0 0	8 20 10	0 0 0	0 0 0	0 0 0	0 0 0
EXPOSED FLOOR	2.5 0.5	0 0 0	0 0 0	8 20 4	0 0 0	0 0 0	40 98 21	0 0 0
BASEMENT/CRAWL HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 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 0 0	0 0 0	0 0 0	0 0 0
SUBTOTAL HT LOSS	1862	5269	1324	3039	331	2592	500	7843
SUB TOTAL HT GAIN	1245	5969	576	3196	198	1361	465	12205
LEVEL FACTOR / MULTIPLIER	0.30 0.48	0.30 0.48	0.30 0.48	0.20 0.26	0.30 0.48	0.30 0.48	0.20 0.26	0.50 0.80
AIR CHANGE HEAT LOSS	898	2541	639	801	160	1250	132	9741
AIR CHANGE HEAT GAIN	70	338	33	181	11	78	26	71
DUCT LOSS	0	0	0	384	0	0	63	0
DUCT GAIN	0	0	0	405	0	0	49	0
HEAT GAIN PEOPLE	240	480	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	673	673	673	673	673	673	673	673
TOTAL HT LOSS BTU/H	2760	7810	1963	4224	491	3842	695	21946
TOTAL HT GAIN x 1.3 BTU/H	2585	9386	1667	5792	271	1897	702	1732

TOTAL HEAT GAIN BTU/H: 41687 TONS: 3.47

LOSS DUE TO VENTILATION LOAD BTU/H: 2651

STRUCTURAL HEAT LOSS: 59468

TOTAL COMBINED HEAT LOSS BTU/H: 62109

Michael O'Rourke

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 42-3

DATE: Jan-16

GFA: 3296 LO# 66899

HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 59,458
AIR FLOW RATE CFM 21.11
AIR FLOW RATE CFM 30.51

EL195UH090XE48C
FAN SPEED
LOW 0
MEDIUM 1105
HIGH 1525

LENNOX 90

AFUE = 95.0 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 84,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	4	8	5
R/A	0	0	14	2	1

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure 0.35
for s/a & r/a

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

DESIGN CFM = 1255
CFM @ .6" E.S.P.

TEMPERATURE RISE 62 °F

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'x10" unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS	BED-3	MBR	ENS-2	LIV/DIN	KT/GR	KT/GR	KT/GR	KT/GR	LAUN	W/R	FOY	WIC-2	BAS	BAS	BAS	BAS
RM LOSS MBH	1.55	1.19	0.46	1.60	1.80	1.30	1.10	1.10	1.19	1.80	1.55	1.09	2.76	2.60	2.60	2.60	2.11	0.49	3.84	0.70	4.39	4.39	4.39	4.39
CFM PER RUN HEAT	33	25	10	34	38	27	23	25	38	33	23	58	55	55	55	55	45	10	81	15	93	93	93	93
RM GAIN MBH	2.04	0.88	0.17	2.20	2.45	1.89	0.46	0.88	0.88	2.45	2.04	0.57	2.58	3.13	3.13	3.13	2.90	0.27	1.90	0.70	0.35	0.35	0.35	0.35
CFM PER RUN COOLING	62	27	5	67	75	58	14	27	75	62	17	79	95	95	95	95	88	8	58	21	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	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	120	120	130	130	140	140	100	160	130	150	120	100	100	120	100	100	130	110	110	130	120	110	120	100
TOTAL EFFECTIVE LENGTH	173	188	175	167	180	195	134	216	166	198	158	115	179	141	151	151	186	137	142	163	170	143	155	119
ADJUSTED PRESSURE	0.1	0.09	0.1	0.1	0.1	0.09	0.13	0.08	0.1	0.09	0.11	0.15	0.09	0.11	0.11	0.11	0.09	0.13	0.11	0.11	0.11	0.11	0.11	0.11
ROUND DUCT SIZE	5	4	4	5	5	5	4	4	5	5	4	5	5	6	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	242	287	115	250	279	198	264	287	279	242	264	426	280	404	404	404	330	115	595	172	683	683	683	683
COOLING VELOCITY (ft/min)	455	310	57	492	551	426	161	310	551	455	195	580	484	698	698	698	646	92	426	241	81	81	81	81
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	A	B	G	G	B	G	A	G	D	D	D	A	C	C	C	F	G	F	G	A	C	B	G

RUN #	25	26	27	28
ROOM NAME	BAS	DEN	MUD	LAUN
RM LOSS MBH	4.39	1.96	1.10	2.11
CFM PER RUN HEAT	93	41	23	45
RM GAIN MBH	0.35	1.67	1.09	2.90
CFM PER RUN COOLING	11	51	33	88
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16
ACTUAL DUCT LGH	31	35	26	51
EQUIVALENT LENGTH	110	110	120	130
TOTAL EFFECTIVE LENGTH	141	145	146	181
ADJUSTED PRESSURE	0.11	0.12	0.12	0.09
ROUND DUCT SIZE	5	4	4	5
HEATING VELOCITY (ft/min)	683	470	264	330
COOLING VELOCITY (ft/min)	81	585	379	646
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10
TRUNK	F	B	B	F

SUPPLY AIR TRUNK SIZE	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	198	0.08	7.6	8	446	515	0.09	10.6	14	8	515	0.09	10.6	14	8
TRUNK B	392	0.08	9.9	12	588	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK C	628	0.08	11.8	16	707	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK D	114	0.09	6	4	513	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK E	742	0.08	12.5	18	742	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK F	264	0.09	8.3	8	594	0	0.00	0	0	8	0	0.00	0	0	8

RETURN AIR #	1	2	3	4	5	6	BR																	
AIR VOLUME	155	135	135	95	135	385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	51	69	40	45	51	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	235	185	165	240	215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	236	304	225	210	291	231	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.05	0.07	0.07	0.05	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.5	7.5	6.8	6	7.5	10.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 42-3
SITE NAME: KLEINBURG GLEN

LO # 66899

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</u> 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
More than 5 - Part 6	TOTAL	<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>95</u>	cfm
Required Supplemental Capacity	<u>95.8</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 50H		
Location:	BSMT		
<u>95.0</u> cfm	<u>3.0</u> sones		
☒	HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
95.0 CFM	X 76 F	X 1.08	X 0.34

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 50H	
<u>95</u> cfm high	<u>48</u> cfm low	
<u>66</u> % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER:		GOLD PARK 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:	January-16

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 42-3	BUILDER: GOLD PARK HOMES
SFQT: 3296	LO# 66899
	SITE: KLEINBURG GLEN

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	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:	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 (ft³):	44494.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 58.0 ft	WIDTH: 34.0 ft	EXPOSED PERIMETER:	184.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package
	J
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	22
Basement Walls Minimum RSI (R)-Value	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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	1.8
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	0.94
HRV Minimum Efficiency	60%
Domestic Hot Water Heater Minimum EF	0.67

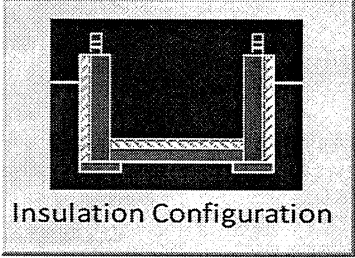
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	▼
Region:	Vaughan (Woodbridge)	▼
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	17.7	 Insulation Configuration
Floor Width (m):	10.4	
Exposed Perimeter (m):	0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	1.4	
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):	2298	

56.2

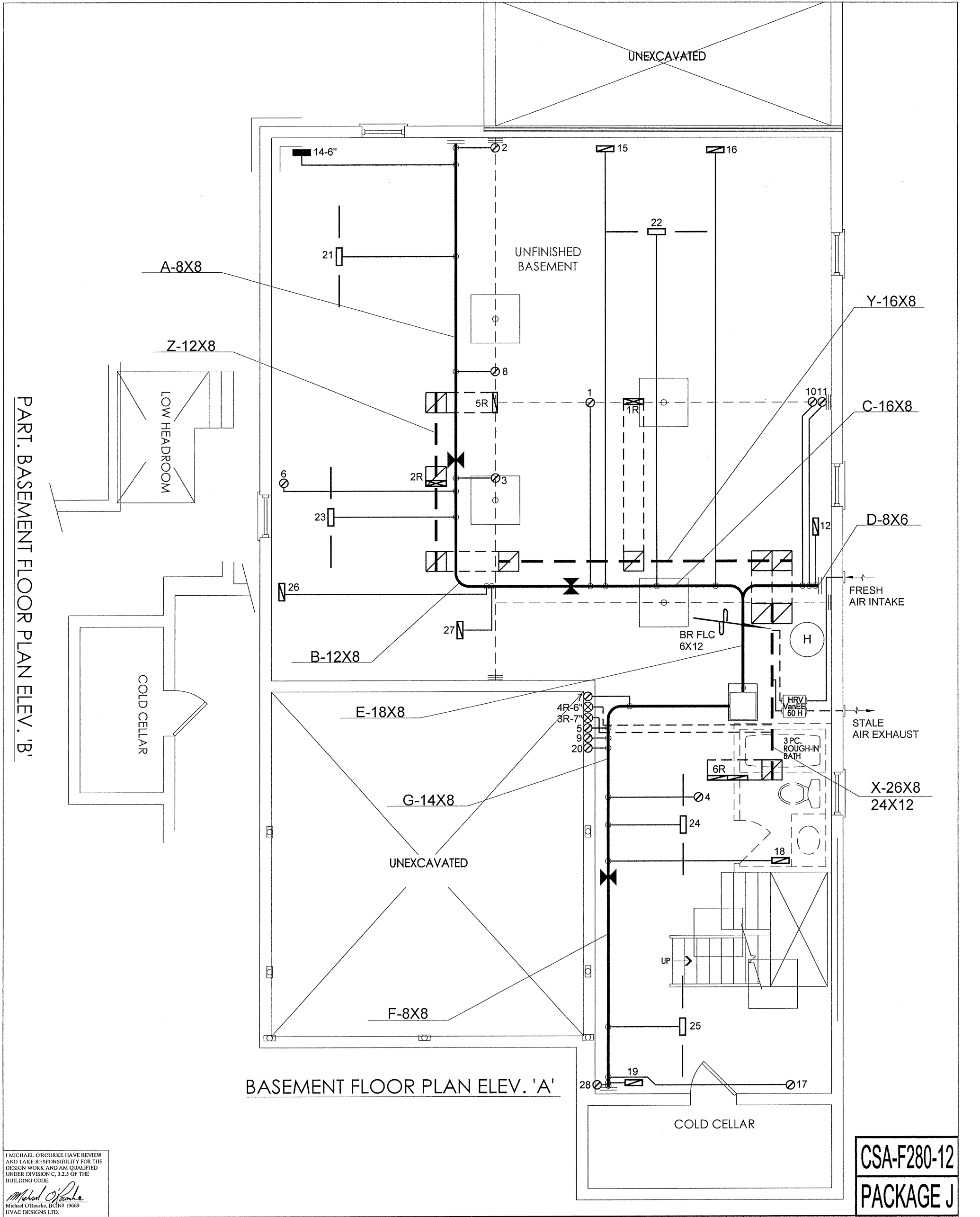
2.6 150.34

149.84

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
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):	1259.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. 716.42 cm ² 3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	0		0	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Change Rate (ACH/H):		0.322		
Cooling Air Change Rate (ACH/H):		0.098		



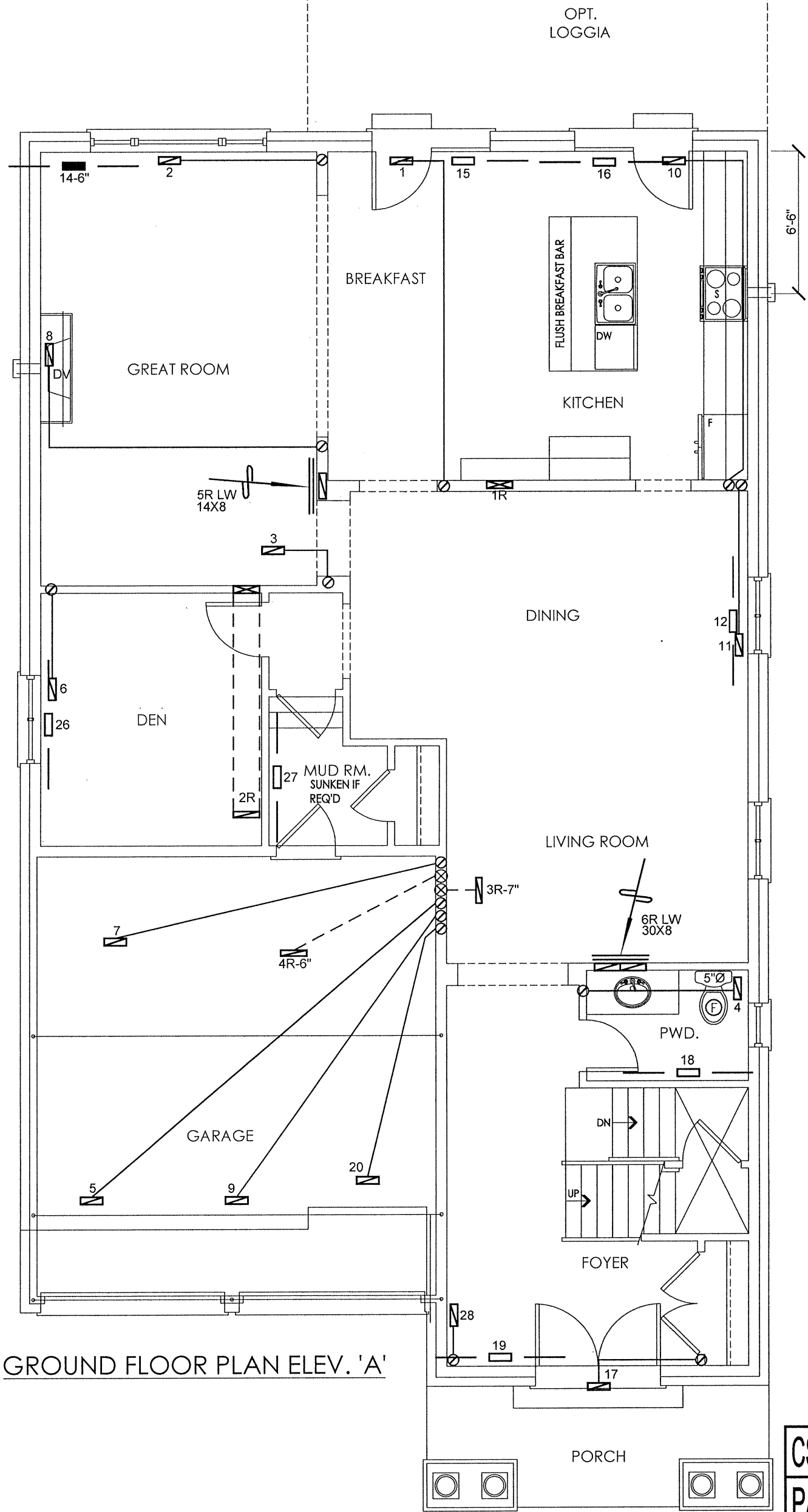
I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.

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

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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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Client		HVACDESIGNS LTD. 375 Finley Ave - Unit 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 62109 BTU/H		# OF RUNS S/A R/A FANS				Sheet Title			
GOLD PARK HOMES			UNIT DATA		3RD FLOOR				BASEMENT			
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			MAKE LENNOX		2ND FLOOR		14	4	4	HEATING		
			MODEL EL195UH090XE48C		1ST FLOOR		8	2	2	LAYOUT		
			INPUT 88 MBTU/H		BASEMENT		5	1	0	Date JAN/2016		
			OUTPUT 84 MBTU/H		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						Scale 3/16" = 1'-0"	
42-3			COOLING 3.5 TONS		BCIN# 19669						LO# 66899	
			FAN SPEED 1255 cfm @ 0.5" w.c.									
3296 sqft												



GROUND FLOOR PLAN ELEV. 'A'

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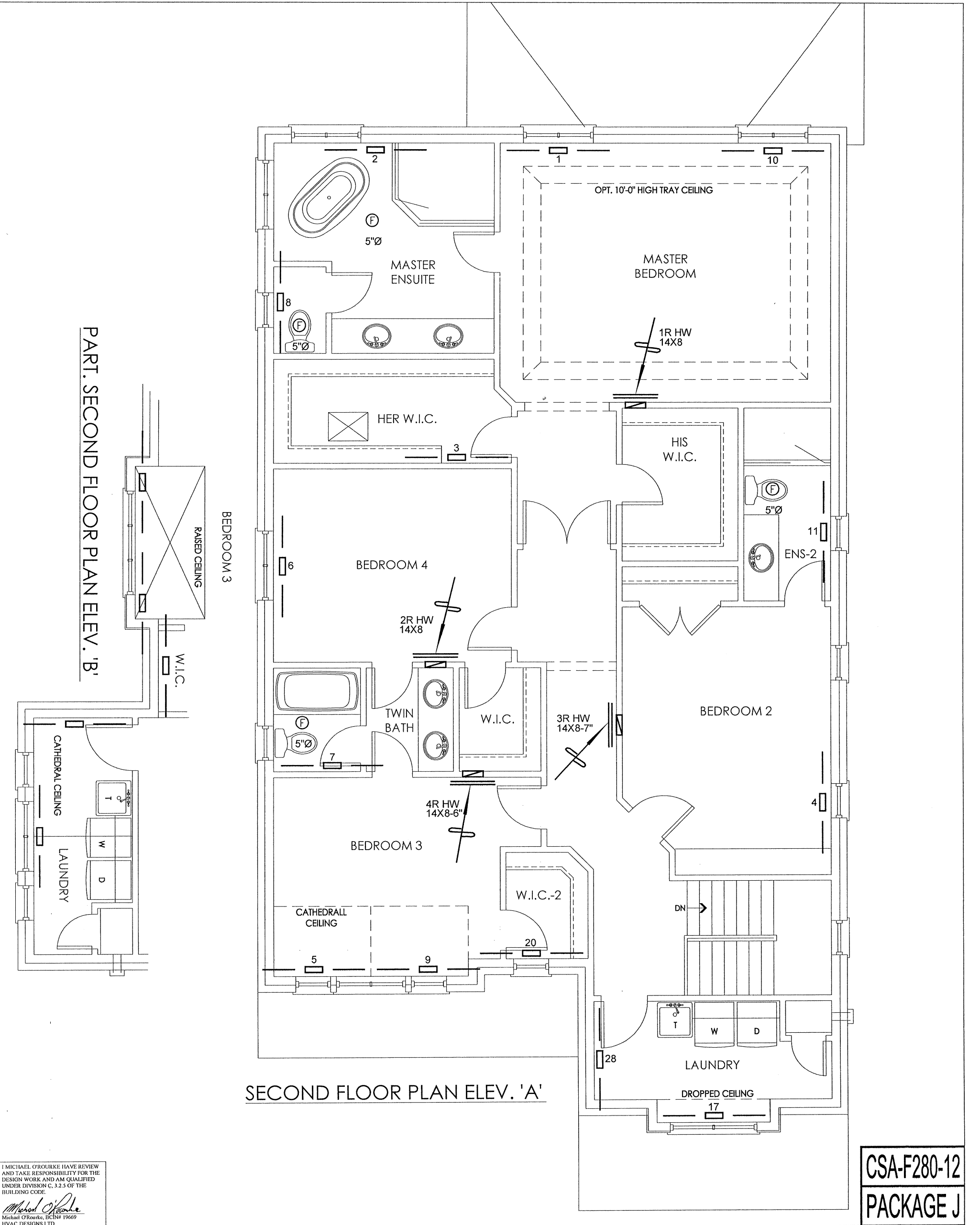
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE J

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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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Client GOLD PARK HOMES		 375 Finley Ave - Unit 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.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			Date JAN/2016	
42-3			Scale 3/16" = 1'-0"	
3296 sqft			BCIN# 19669	
			LO# 66899	



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

CSA-F280-12
PACKAGE J

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client

GOLD PARK HOMES

Project Name

KLEINBURG GLEN
VAUGHAN, ONTARIO

375 Finley Ave - Unit 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.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.

Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

JAN/2016

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

66899

42-3

3296 sqft