


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 (WOODBIDGE)	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]				
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems </div> </div>				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 4000 THE BRIARWOOD Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): <div style="text-align: center;">(print name)</div>				
<input type="checkbox"/> 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: _____				
<input checked="" type="checkbox"/> 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>				
<input type="checkbox"/> 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.				
September 10, 2018		 _____ Signature of Designer		
Date				

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: PINE VALLEY & TESTON BUILDERS: GOLD PARK HOMES TYPE: 4000 DATE: Sep-18 WINTER NATURAL AIR CHANGE RATE 0.341 HEAT LOSS $\Delta T^{\circ}F$ 76 CSA-P280-12
GFA: 2820 LO# 77485 SUMMER NATURAL AIR CHANGE RATE 0.115 HEAT GAIN $\Delta T^{\circ}F$ 13 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	BED-2	BED-3	BED-4	BATH	MEDIA	LOD	BAS
FACTORS										
GRS.WALL AREA	386	386	143	263	109	348	127	182		
GLAZING										
NORTH	21.3 16.0	0 0 0 21	447 335	17 382	272 0 0 0	9 192	144 0 0 0	0 0 0		
EAST	21.3 41.6	0 0 0 0	0 0 0 0	0 0 0 0	41 872	1704 0 0 0	0 0 0 8	170 199		
SOUTH	21.3 24.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0		
WEST	21.3 41.6	41 872	1704 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0		
SKYL.T.	37.2 101.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0		
DOORS	25.2 4.3	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	4.5 0.8	344 1036	122 544	92 411	69 305	1360 229	118 528	89 174	777 131	
NET EXPOSED BSMT WALL ABOVE GR	3.6 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	0 0 0		
EXPOSED CLG	1.3 0.6	328 421	193 32	41 19	0 0 0 0	179 230	105 182	234 107	432 664	264
NO ATTIC EXPOSED CLG	2.7 1.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	117 322	147 0 0 0	0 0 0		
EXPOSED FLOOR	2.6 0.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	296 765	127 53	135 23	28 71	12
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		2829	1032	1482	973	3539	1089	1573		
SUB TOTAL HT GAIN		2165	446	510	433	2312	362	595		
LEVEL FACTOR / MULTIPLIER	0.30	0.28	0.30	0.28	0.20	0.59	0.20	0.59		
AIR CHANGE HEAT LOSS	785	0 0 0 0	286 42	411 48	578 41	2102 218	647 34	934 56		
AIR CHANGE HEAT GAIN	0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	564 343	174 40	251 131		
DUCT 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		
DUCT GAIN		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		
HEAT GAIN PEOPLE	240	2 480	0 0	1 240	1 240	1 240	0 240	0 0		
HEAT GAIN APPLIANCES/LIGHTS		661	0 0	661 661	661 661	661 661	0 0	661 661		
TOTAL HT LOSS BTU/H		3614	1319	1894	1652	6205	1909	2767		
TOTAL HT GAIN x 1.3 BTU/H		4549	634	1896	1787	4907	567	1878		

ROOM USE	EXP. WALL CLG. HT.	FORM	KTGR	LAUN	WIR	FOY	LOD	BAS
FACTORS								
GRS.WALL AREA	480	480	936	104	0	1026	382	1498
GLAZING								
NORTH	21.3 16.0	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 0 0
EAST	21.3 41.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
SOUTH	21.3 24.9	68 1234	1444 68	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
WEST	21.3 41.6	0 0 0 0	100 2128	0 0 0 0	0 0 0 0	0 0 0 0	30 638	1247 0 0 0
SKYL.T.	37.2 101.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
DOORS	28.2 4.3	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 0
NET EXPOSED WALL	4.5 0.8	422 1883	317 778	3472 585	0 0 0 0	40 1010	170 980	4373 737
NET EXPOSED BSMT WALL ABOVE GR	3.6 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	0 0 0 0
EXPOSED CLG	1.3 0.6	188 216	99 432	554 264	0 0 0 0	0 0 0 0	222 798	135 360
NO ATTIC EXPOSED CLG	2.7 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 0
EXPOSED FLOOR	2.6 0.4	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 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 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 0
SUBTOTAL HT LOSS		3333	7389	880	0	6093	1437	8834
SUB TOTAL HT GAIN		1860	6438	148	0	1418	1381	426
LEVEL FACTOR / MULTIPLIER	0.30	0.28	0.30	0.28	0.30	0.28	0.30	0.60
AIR CHANGE HEAT LOSS	925	0 0 0 0	2050 807	244 14	0 0	1688 134	0 0	10660 170
AIR CHANGE HEAT GAIN	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 0 0
DUCT 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 0
DUCT GAIN		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 0
HEAT GAIN PEOPLE	240	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 0
HEAT GAIN APPLIANCES/LIGHTS		4258	9439	661 661	0 0	7771	1437	15454
TOTAL HT LOSS BTU/H		3505	10017	1124	0	2017	1795	1634
TOTAL HT GAIN x 1.3 BTU/H								

TOTAL HEAT GAIN BTU/H: 36792 TONS: 3.07 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 62761 TOTAL COMBINED HEAT LOSS BTU/H: 65942

Michael O'Rourke

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESTHE BRIARWOOD
TYPE: 4000

DATE: Sep-18

GFA: 2820 LO# 77455

HEATING CFM 1105 COOLING CFM 1105
TOTAL HEAT LOSS 62,761 TOTAL HEAT GAIN 36,256
AIR FLOW RATE CFM 17,61 AIR FLOW RATE CFM 30,48

^LENNOX

EL296UH090XE48C 90
FAN SPEED LOW 0
MEDIUM 1105
HIGH 1255

AFUE = 96 %

INPUT (BTU/H) = 88,000

OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	6	13	5
R/A	0	0	3	3	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	MEDIA	BED-2	BED-3	BED-4	BATH	BED-4	MEDIA	MBR	KT/GR	KT/GR	FORM	KT/GR	KT/GR	KT/GR	LAUN	W/R	FOY	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.81	1.32	1.38	1.89	1.55	3.10	1.91	3.10	1.38	1.81	3.15	3.15	2.13	3.15	3.15	3.15	1.12	0.00	3.89	3.89	4.18	4.18	4.18	4.18
CFM PER RUN HEAT	32	23	24	33	27	55	34	55	24	32	55	55	37	55	55	55	20	0	68	68	74	74	74	74
RM GAIN MBH	2.27	0.63	0.94	1.90	1.79	2.45	0.57	2.45	0.94	2.27	3.34	3.34	1.75	3.34	3.34	3.34	1.07	0.00	1.01	1.01	0.89	0.69	0.89	0.69
CFM PER RUN COOLING	69	19	29	58	54	75	17	75	29	69	102	102	53	102	102	102	33	0	31	31	21	21	21	21
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	170	190	150	150	160	210	130	220	200	110	120	100	130	120	100	110	160	170	120	130	110	180	90	130
TOTAL EFFECTIVE LENGTH	217	211	189	156	184	270	163	278	260	152	181	145	166	145	181	162	193	216	175	183	167	216	124	164
ADJUSTED PRESSURE	0.08	0.08	0.09	0.11	0.09	0.11	0.11	0.06	0.07	0.11	0.09	0.11	0.1	0.11	0.09	0.1	0.09	0.08	0.1	0.09	0.1	0.08	0.14	0.1
ROUND DUCT SIZE	5	4	4	4	5	6	4	6	4	5	6	6	4	6	6	6	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	235	264	275	379	198	280	390	280	275	235	280	280	424	280	280	280	229	0	499	499	543	543	543	543
COOLING VELOCITY (ft/min)	507	218	333	665	396	382	195	382	333	507	520	520	608	520	520	520	379	0	228	228	154	154	154	154
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	E	C	C	E	C	C	E	C	B	B	B	B	B	E	E	B	A	A	B	C	E	B

TEMPERATURE RISE 71 °F

DESIGN CFM = 1105

CFM @ 0" E.S.P.

MEDIUM HIGH 1255

MEDIUM 1105

LOW 0

FAN SPEED

EL296UH090XE48C

^LENNOX

90

AFUE = 96 %

INPUT (BTU/H) = 88,000

OUTPUT (BTU/H) = 85,000

FAN SPEED

LOW 0

MEDIUM 1105

HIGH 1255

DESIGN CFM = 1105

CFM @ 0" E.S.P.

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CFM @ 0" E.S.P.

MEDIUM HIGH 1255

MEDIUM 1105

LOW 0

FAN SPEED

EL296UH090XE48C

^LENNOX

90

TYPE: 4000
SITE NAME: PINE VALLEY & TESTON

LO # 77455
THE BRIARWOOD

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) <input checked="" type="checkbox"/>	Direct vent (sealed combustion) only	
b) <input type="checkbox"/>	Positive venting induced draft (except fireplaces)	
c) <input type="checkbox"/>	Natural draft, B-vent or induced draft gas fireplace	
d) <input type="checkbox"/>	Solid Fuel (including fireplaces)	
e) <input type="checkbox"/>	No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/>	Forced Air
<input type="checkbox"/>	Non Forced Air
<input type="checkbox"/>	Electric Space Heat

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/>	I Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/>	II Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/>	III Any Type c) appliance	
<input type="checkbox"/>	IV Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/>	1 Exhaust only/Forced Air System	
<input type="checkbox"/>	2 HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/>	3 HRV Simplified/connected to forced air system	
<input type="checkbox"/>	4 HRV with Ducting/non forced air system	
<input type="checkbox"/>	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		9.32.3.5.
Total Ventilation Capacity	169.6	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	14.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 65H
Location:	BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/>	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
155.0 CFM	X 76 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
LAUN	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> 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:	September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																															
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																															
LO#: 77455	Model: 4000	Builder: GOLD PARK HOMES	Date: 9/10/2018																																																												
Volume Calculation		Air Change & Delta T Data																																																													
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5.2.3.1 Heat Loss due to Air Leakage																																																															
$HL_{airb} = LR_{airb} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.341 x 361.26 x 42 °C x 1.2 = 6243 W = 21300 Btu/h																																																															
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																															
$HL_{pairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h																																																															
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																															
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{qgr} + HL_{bgcr}) \div (HL_{qcllevel} + HL_{bgcllevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HLcllevel)</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">21,300</td> <td>10,271</td> <td>1.037</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>23,028</td> <td>0.277</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>7,174</td> <td>0.594</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairv = 0				Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HLcllevel)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	21,300	10,271	1.037	2	0.3	23,028	0.277	3	0.2	7,174	0.594	4	0	0	0.000	5	0	0	0.000																																		
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6.2.6 Sensible Gain due to Air Leakage																																																															
$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.115 x 361.26 x 7 °C x 1.2 = 353 W = 1206 Btu/h																																																															
6.2.7 Sensible heat Gain due to Ventilation																																																															
$HL_{pairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 13 °F x 1.08 x 0.25 = 536 Btu/h																																																															

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4000	THE BRIARWOOD	BUILDER: GOLD PARK HOMES
SFQT: 2820	LO# 77455	SITE: PINE VALLEY & TESTON

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

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):	45928.5	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:	6.1 ft
LENGTH: 70.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	204.0 ft

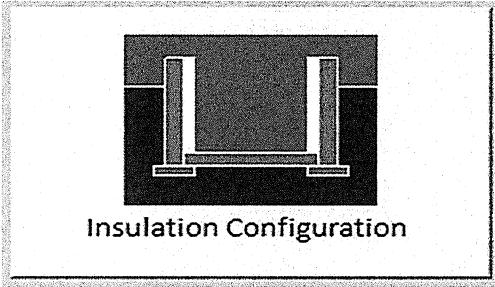
2012 OBC - COMPLIANCE PACKAGE		
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement 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:	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):	21.3	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.8	
Depth Below Grade (m):	1.86	
Window Area (m ²):	3.3	
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):		2023

TYPE: 4000
LO# 77455

THE BRIARWOOD

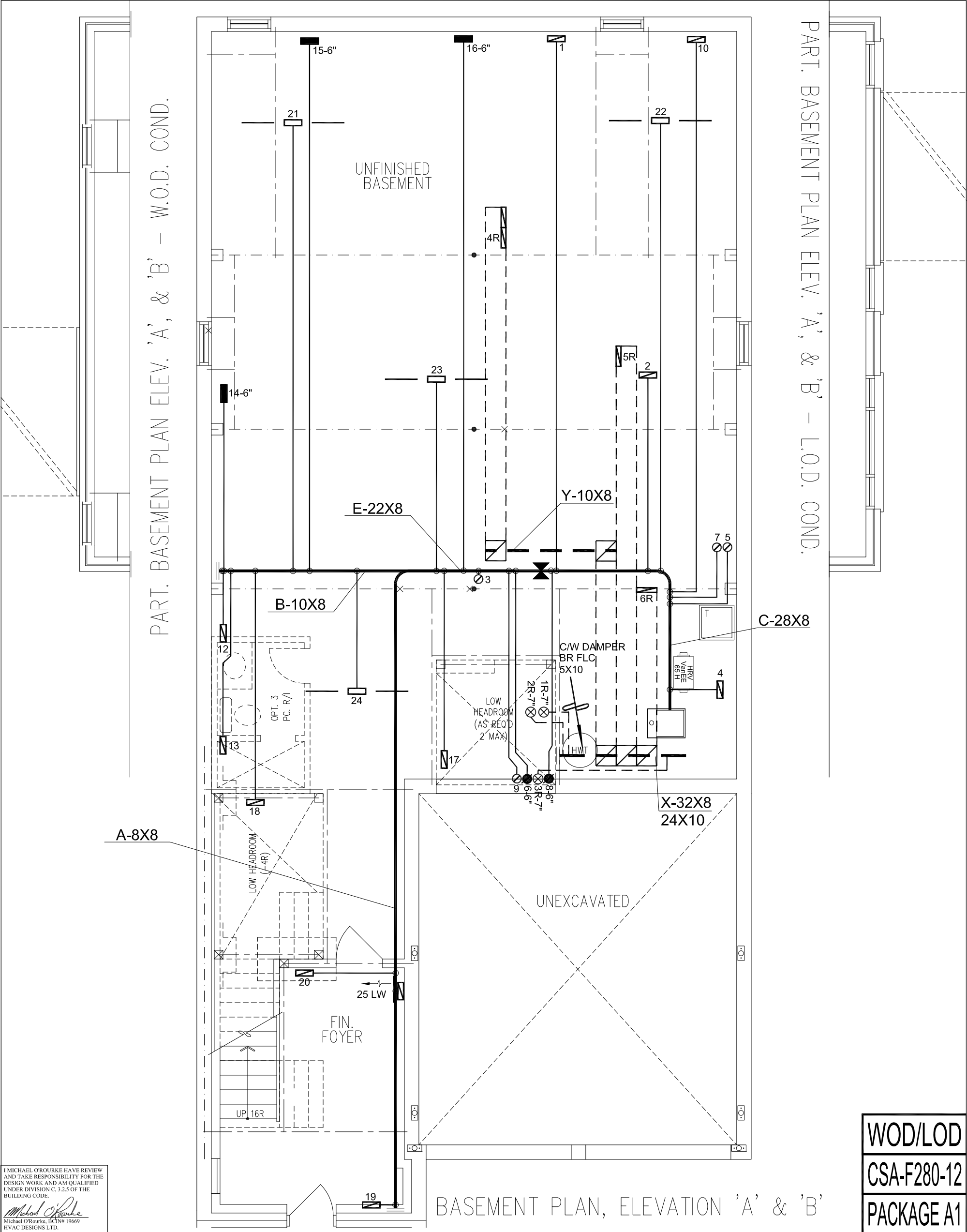
Air Infiltration Residential Load Calculator

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):	7.04		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1300.6		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1733.7 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	73.2	73.2	
Flue Size			
Flue #:	#1	#2	#3 #4
Diameter (mm):	0	0	0 0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.341		
Cooling Air Leakage Rate (ACH/H):	0.115		

TYPE: 4000
LO# 77455

THE BRIARWOOD



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.

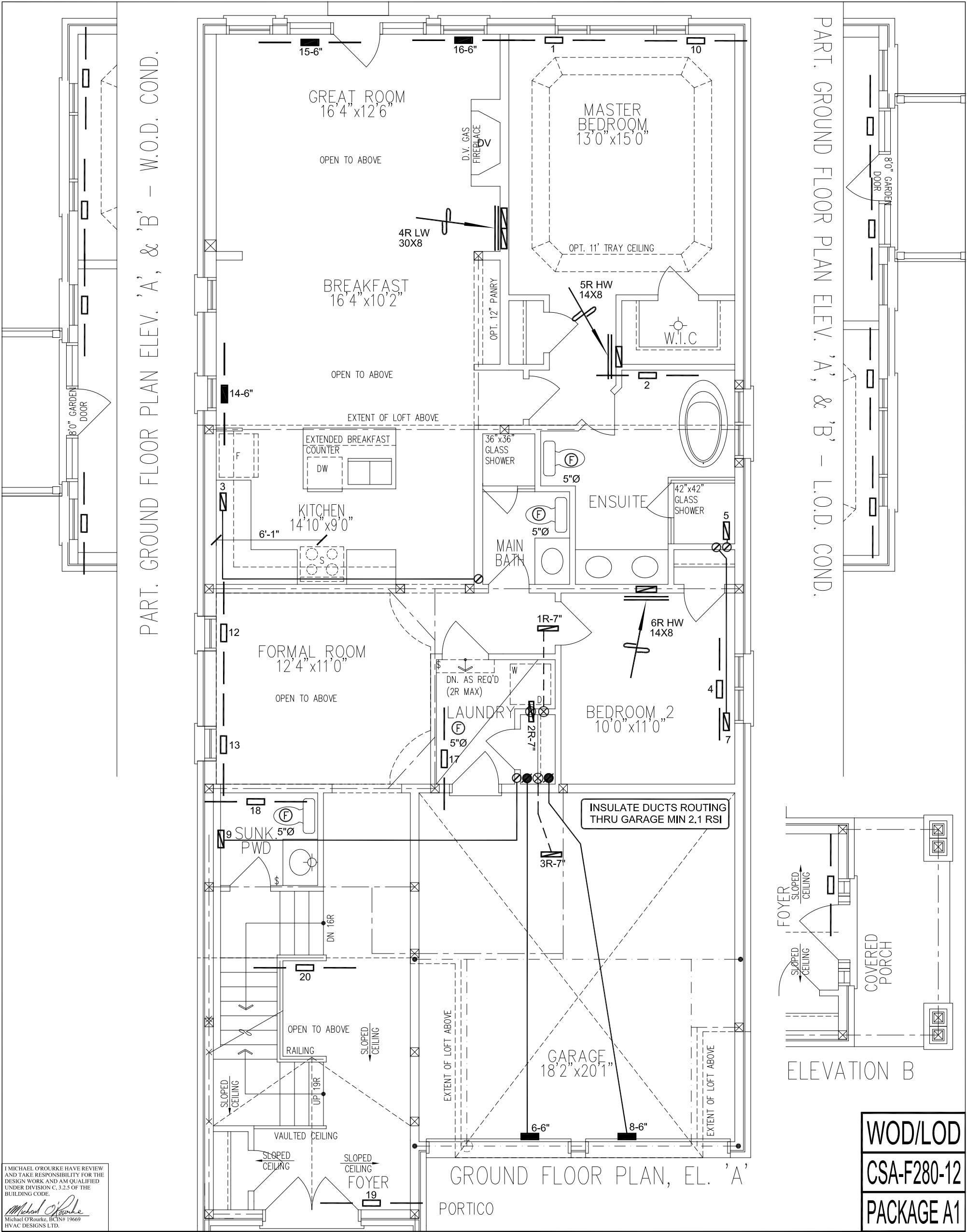
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOD/LOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	DECK CONDITIONS ADDED	SEPT/2018
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED CAD	JULY/2018
	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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client	<div></div> <div>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</div>	HEAT LOSS 65942 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT			
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO		MAKE LENNOX	3RD FLOOR							
		MODEL EL296UH090XE48C	2ND FLOOR			6			3	1
		INPUT 88 MBTU/H	1ST FLOOR			13	3	5		
		OUTPUT 85 MBTU/H	BASEMENT			5	1	0		
THE BRIARWOOD 4000	2820 sqft	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.	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 JAN/2018	Scale 3/16" = 1'-0"		
			FAN SPEED 1105 cfm @ 0.6" w.c.				BCIN# 19669			
									LO#	77455



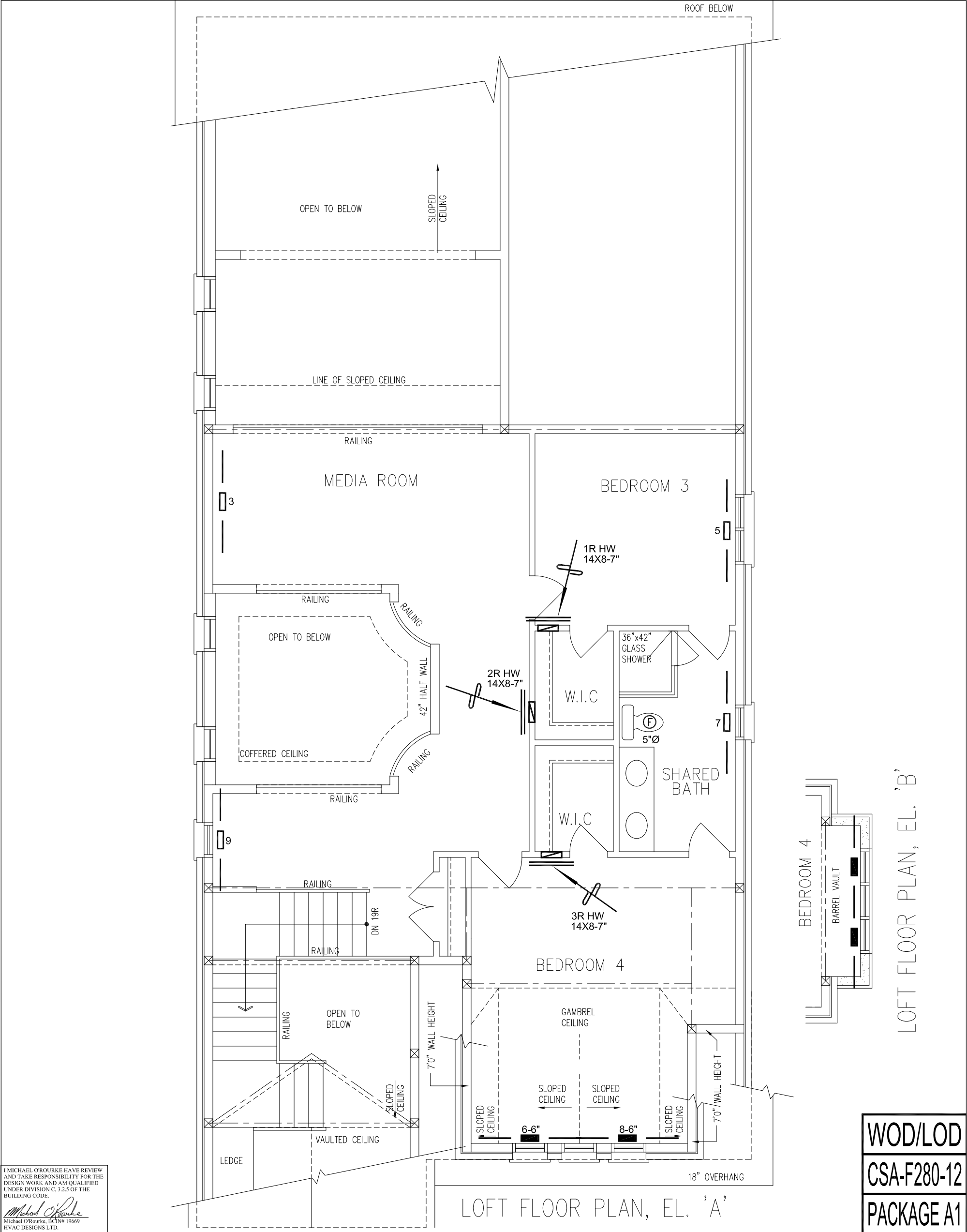
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND								3.		
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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
THE BRIARWOOD 4000		BCIN# 19669		
2820 sqft		LO#	77455	



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Michael O'Rourke
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HVAC DESIGNS LTD.

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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	1.	REVISED CAD	JULY/2018
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								REVISIONS		

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			Date	JAN/2018
			Scale	3/16" = 1'-0"
THE BRIARWOOD 4000		BCIN# 19669		
2820 sqft		LO#	77455	