

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]			
☐ 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: 4204 BROOKVALLEY - WOB Project: PINE VALLEY PH 2	
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.			
May 2, 2022 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: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES
DATE: May-22
LO# 96512
GFA: 3646
BROOKVALEY - WOB
TYPE: 4204
WINTER NATURAL AIR CHANGE RATE 0.407
SUMMER NATURAL AIR CHANGE RATE 0.137
HEAT LOSS AT °F. 76
HEAT GAIN AT °F. 13
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2/3	BTH-2	
FACTORS									
LOSS GAIN	37 10	36 9	7 9	32 9	44 9	28 9	5 9	0 9	
GRS.WALL AREA	370	324	63	288	396	252	45	0	
GLAZING	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	
EAST	0	0	0	0	0	0	0	0	
SOUTH	0	0	0	0	0	0	0	0	
WEST	0	0	0	0	0	0	0	0	
SKYL.T.	55	1170	2285	13	277	540	0	0	
DOORS	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.5	0.8	315	1406	237	266	1187	200	
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	
EXPOSED CLG	3.3	0.6	337	432	198	350	449	206	
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	
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	3009	2870	362	3035	3988	2754	676	163	
SUB TOTAL HT GAIN	2720	2066	84	2470	4107	1955	523	75	
LEVEL FACTOR / MULTIPLIER	0.20	0.34	0.20	0.34	0.20	0.34	0.20	0.34	
AIR CHANGE HEAT LOSS	1026	979	123	1035	1361	940	231	56	
AIR CHANGE HEAT GAIN	162	123	5	147	245	117	31	4	
DUCT LOSS	0	0	0	407	0	0	91	0	
DUCT GAIN	0	0	0	391	0	0	55	0	
HEAT GAIN PEOPLE	2	480	0	240	1	240	0	0	
HEAT GAIN APPLIANCES/LIGHTS	1049	0	0	1049	1049	1049	0	0	
TOTAL HT LOSS BTU/H	4035	3850	486	4477	5349	3694	997	219	
TOTAL HT GAIN x 1.3 BTU/H	5734	2846	116	5585	7333	4369	753	103	

ROOM USE EXP. WALL CLG. HT.	DIN	KT/GT	LIB	LAUN	PWD	FOY	MUD	WOB	BAS
FACTORS									
LOSS GAIN	286 11	858 11	550 11	72 9	176 11	440 20	308 11	450 10	1043 10
GRS.WALL AREA	286	858	550	72	176	440	308	450	1043
GLAZING	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
EAST	0	0	0	0	0	0	0	0	0
SOUTH	62	1319	1544	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0
SKYL.T.	37.2	101.5	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	224	1000	168	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2319	1712	4624	4777	785	3700	1686	592	2607
SUB TOTAL HT GAIN	1712	6695	4624	4777	785	3700	1686	4216	4617
LEVEL FACTOR / MULTIPLIER	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.50
AIR CHANGE HEAT LOSS	1027	3079	2049	175	348	1639	747	2723	14815
AIR CHANGE HEAT GAIN	102	399	285	8	8	112	17	0	183
DUCT LOSS	0	0	0	69	0	0	0	0	0
DUCT GAIN	0	0	0	119	0	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	1049	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	1049	1049	1049	1049	1049	1049	1049	0	1049
TOTAL HT LOSS BTU/H	3346	10028	6673	758	1133	5339	2433	4216	19432
TOTAL HT GAIN x 1.3 BTU/H	3722	10586	7944	1698	182	2593	391	3539	2041

TOTAL HEAT GAIN BTU/H: 59851 TONS: 4.99 LOSS DUE TO VENTILATION LOAD BTU/H: 1631 STRUCTURAL HEAT LOSS: 76465 TOTAL COMBINED HEAT LOSS BTU/H: 78096

Michael O'Rourke

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

TYPE: 4204

DATE: May-22

GFA: 3846

LO# 96512

HEATING CFM 1995
TOTAL HEAT LOSS 76,465
AIR FLOW RATE CFM 26.09COOLING CFM 1995
TOTAL HEAT GAIN 59,576
AIR FLOW RATE CFM 33.49ML196UH110XE60C
FAN SPEED
LOW
MEDIUM
HIGHAFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 107,200

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	13	7
R/A	0	0	5	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	BED-2	BED-3	BED-4	ENS-2/3	BED-2	BED-3	MBR	BTH-2	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LIB	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.02	1.92	1.92	1.78	1.85	0.50	2.24	1.78	2.02	0.22	1.67	2.51	2.51	2.51	2.51	2.22	0.76	1.13	2.67	2.43	3.38	3.38	3.38	3.38
CFM PER RUN HEAT	53	50	58	47	48	13	58	47	53	6	44	65	65	65	65	58	20	30	70	63	88	88	88	88
RM GAIN MBH	2.87	1.42	1.42	2.79	2.44	2.18	2.79	2.44	2.87	0.10	1.86	2.65	2.65	2.65	2.65	2.65	1.70	0.18	1.30	0.39	0.80	0.80	0.80	0.80
CFM PER RUN COOLING	96	48	94	82	73	13	94	82	96	3	62	89	89	89	89	89	57	6	43	13	27	27	27	27
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	51	47	47	52	45	50	56	63	43	35	29	26	26	26	26	43	50	34	36	10	59	40	16	52
EQUIVALENT LENGTH	160	200	120	150	200	160	140	160	190	160	100	110	110	110	110	150	170	100	150	140	160	90	100	100
TOTAL EFFECTIVE LENGTH	211	247	167	202	272	205	190	216	253	203	185	129	136	136	193	163	220	134	186	150	219	130	116	152
ADJUSTED PRESSURE	0.08	0.07	0.1	0.08	0.08	0.09	0.08	0.08	0.06	0.09	0.13	0.12	0.12	0.12	0.08	0.1	0.08	0.13	0.09	0.11	0.07	0.12	0.14	0.11
ROUND DUCT SIZE	6	5	6	6	6	4	6	6	6	4	5	6	6	6	6	6	5	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	270	367	367	296	240	245	149	296	240	270	69	323	331	331	331	296	147	344	514	463	449	449	449	449
COOLING VELOCITY (ft/min)	489	352	352	479	418	372	149	479	418	489	34	455	454	454	454	454	419	69	316	95	138	138	138	138
OUTLET GRILL SIZE	4X10	3X10	4X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	E	A	D	C	B	A	C	C	B	E	D	A	D	E	A	B	C	C	C	E	A	E	D	B

RUN #	25	26	27	28	29	30	31	32	33	34	35	36
ROOM NAME	BED-4	LIB	KT/GT	ENS-2/3	WIC	BAS	BED-3	LIB	FOY	BAS	DIN	BAS
RM LOSS MBH	1.85	2.22	2.51	0.50	0.49	3.38	1.78	2.22	2.67	3.38	1.67	3.38
CFM PER RUN HEAT	48	58	65	13	13	88	47	58	70	88	44	88
RM GAIN MBH	2.18	2.65	2.65	0.40	0.12	0.80	2.44	2.65	1.30	0.80	1.86	0.80
CFM PER RUN COOLING	73	89	89	13	4	27	82	89	43	27	62	27
ADJUSTED PRESSURE	0.17	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.16	0.17	0.16
ACTUAL DUCT LGH.	50	50	37	45	22	30	76	54	43	38	29	29
EQUIVALENT LENGTH	150	150	150	160	120	160	120	160	130	180	120	150
TOTAL EFFECTIVE LENGTH	200	200	187	205	182	150	236	194	173	218	149	179
ADJUSTED PRESSURE	0.09	0.08	0.09	0.08	0.09	0.11	0.07	0.08	0.1	0.07	0.12	0.09
ROUND DUCT SIZE	6	6	6	4	4	6	6	6	5	6	5	6
HEATING VELOCITY (ft/min)	245	296	331	149	149	449	240	296	514	449	323	449
COOLING VELOCITY (ft/min)	372	454	454	149	46	138	418	454	316	138	455	138
OUTLET GRILL SIZE	4X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10	3X10	4X10
TRUNK	A	B	A	C	E	D	B	B	C	C	A	A

TRUNK	CFM	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	540	0.07	11.5	16	608	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK B	403	0.05	10.7	16	453	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK C	823	0.06	14	26	570	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK D	1660	0.08	18.2	30	797	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK E	335	0.06	9.3	10	603	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	0	0	0.00	0	0	8	0	0.06	0	0	8

RETURN AIR #	1	2	3	4	5	6	7	8	BR															
AIR VOLUME	0	0	0	0	0	0	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.	35	59	61	54	47	26	26	60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	145	175	195	185	160	205	130	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	180	234	256	239	207	231	156	215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.08	0.06	0.06	0.06	0.07	0.06	0.09	0.07	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	7	7	7	7.3	10.3	9.4	8.8	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 4204
SITE NAME: PINE VALLEY PH 2

LO # 96512
BROOKVALLEY - WOB

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	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	79.5	cfm
Required Supplemental Capacity	90.1	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE V150H		
Location:	BSMT		
79.5 cfm	☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 76 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR	
Location	Model	cfm	HVI
ENS	BY INSTALLING CONTRACTOR	50	☒
ENS-2/3	BY INSTALLING CONTRACTOR	50	☒
BTH-2	BY INSTALLING CONTRACTOR	50	☒
PWD	BY INSTALLING CONTRACTOR	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
150	cfm high	
35	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:	
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:	May-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																																	
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																																	
LO#: 96512		Model: 4204		Builder: GOLD PARK HOMES		Date: 2022-05-02																																																																											
Volume Calculation				Air Change & Delta T Data																																																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">House Volume</th> <th colspan="2" style="text-align: left;">Floor Area (ft²)</th> <th colspan="2" style="text-align: left;">Floor Height (ft)</th> <th colspan="2" style="text-align: left;">Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Bsmt</td> <td>1673</td> <td></td> <td>10</td> <td></td> <td>16730</td> <td></td> <td></td> </tr> <tr> <td>First</td> <td>1673</td> <td></td> <td>11</td> <td></td> <td>18403</td> <td></td> <td></td> </tr> <tr> <td>Second</td> <td>2047</td> <td></td> <td>9</td> <td></td> <td>18423</td> <td></td> <td></td> </tr> <tr> <td>Third</td> <td>0</td> <td></td> <td>9</td> <td></td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Fourth</td> <td>0</td> <td></td> <td>9</td> <td></td> <td>0</td> <td></td> <td></td> </tr> <tr> <td colspan="2">Total:</td> <td colspan="2"></td> <td colspan="2">53,556.0 ft³</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Total:</td> <td colspan="2"></td> <td colspan="2">1516.5 m³</td> <td colspan="2"></td> </tr> </tbody> </table>										House Volume		Floor Area (ft²)		Floor Height (ft)		Volume (ft³)		Level								Bsmt	1673		10		16730			First	1673		11		18403			Second	2047		9		18423			Third	0		9		0			Fourth	0		9		0			Total:				53,556.0 ft³				Total:				1516.5 m³			
House Volume		Floor Area (ft²)		Floor Height (ft)		Volume (ft³)																																																																											
Level																																																																																	
Bsmt	1673		10		16730																																																																												
First	1673		11		18403																																																																												
Second	2047		9		18423																																																																												
Third	0		9		0																																																																												
Fourth	0		9		0																																																																												
Total:				53,556.0 ft³																																																																													
Total:				1516.5 m³																																																																													
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6.2.6 Sensible Gain due to Air Leakage																																																																																	
$HG_{satb} = LR_{atrc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																																	
$= 0.137 \times 421.26 \times 7 \times 1.2 = 491 \text{ W}$																																																																																	
$= 1674 \text{ Btu/h}$																																																																																	
6.2.7 Sensible heat Gain due to Ventilation																																																																																	
$HL_{vatrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																																	
$80 \text{ CFM} \times 13 \text{ °F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$																																																																																	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																																	
$HL_{airrr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$																																																																																	
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*HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HL_{airve} = 0																																																																																	

Michael O'Rourke
BCIN# 19669

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4204	BROOKVALLEY - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3646	LO# 96512	SITE: PINE VALLEY PH 2

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
		WINDOW SHGC	0.50

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):	53556.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 62.0 ft	WIDTH: 35.0 ft	EXPOSED PERIMETER:	149.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	45.0 ft

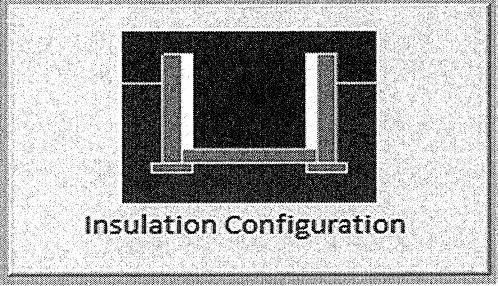
2012 OBC - COMPLIANCE PACKAGE		
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement 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	96%	-
HRV/ERV 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):	4.6	 Insulation Configuration
Floor Width (m):	10.7	
Exposed Perimeter (m):	45.4	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.81	
Window Area (m ²):	0.0	
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):		764

TYPE: 4204
LO# 96512

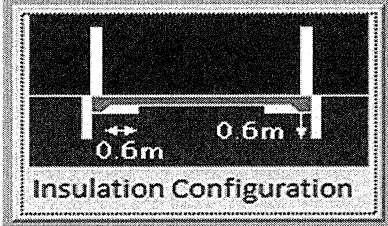
BROOKVALLEY - WOB

Michael O'Rourke BCIN #19669



Residential Slab on Grade 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		
Length (m):	1.5	
Width (m):	10.7	
Exposed Perimeter (m):	13.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		174

TYPE: 4204
LO# 96512

BROOKVALLEY - WOB

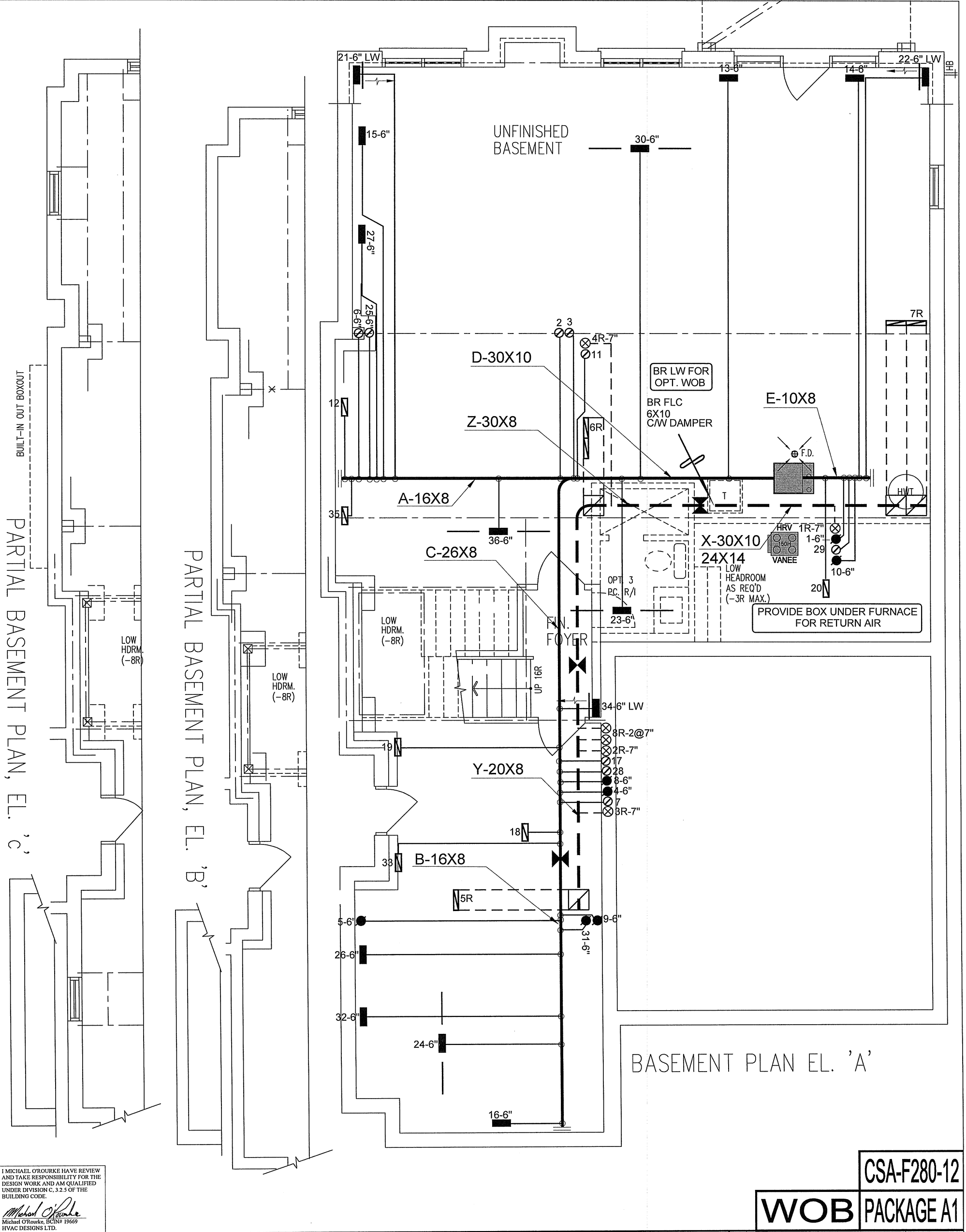
Air Infiltration Residential Load Calculator

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):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1516.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2021.6 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 4204
LO# 96512

BROOKVALLEY - WOB



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

WOB

PACKAGE A1

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 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

Project Name

PINE VALLEY PH 2
VAUGHAN, ONTARIO

BROOKVALLEY
4204 - WOB

3646 sqft

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 78096 BTU/H
UNIT DATA

MAKE

LENNOX

MODEL

ML196UH110XE60C

INPUT

110 MBTU/H

OUTPUT

107.2 MBTU/H

COOLING

5.0 TONS

FAN SPEED

1995 cfm @ 0.6" w.c.

OF RUNS S/A R/A FANS

3RD FLOOR

2ND FLOOR

16 5 5

1ST FLOOR

13 3 2

BASEMENT

7 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

MAY/2022

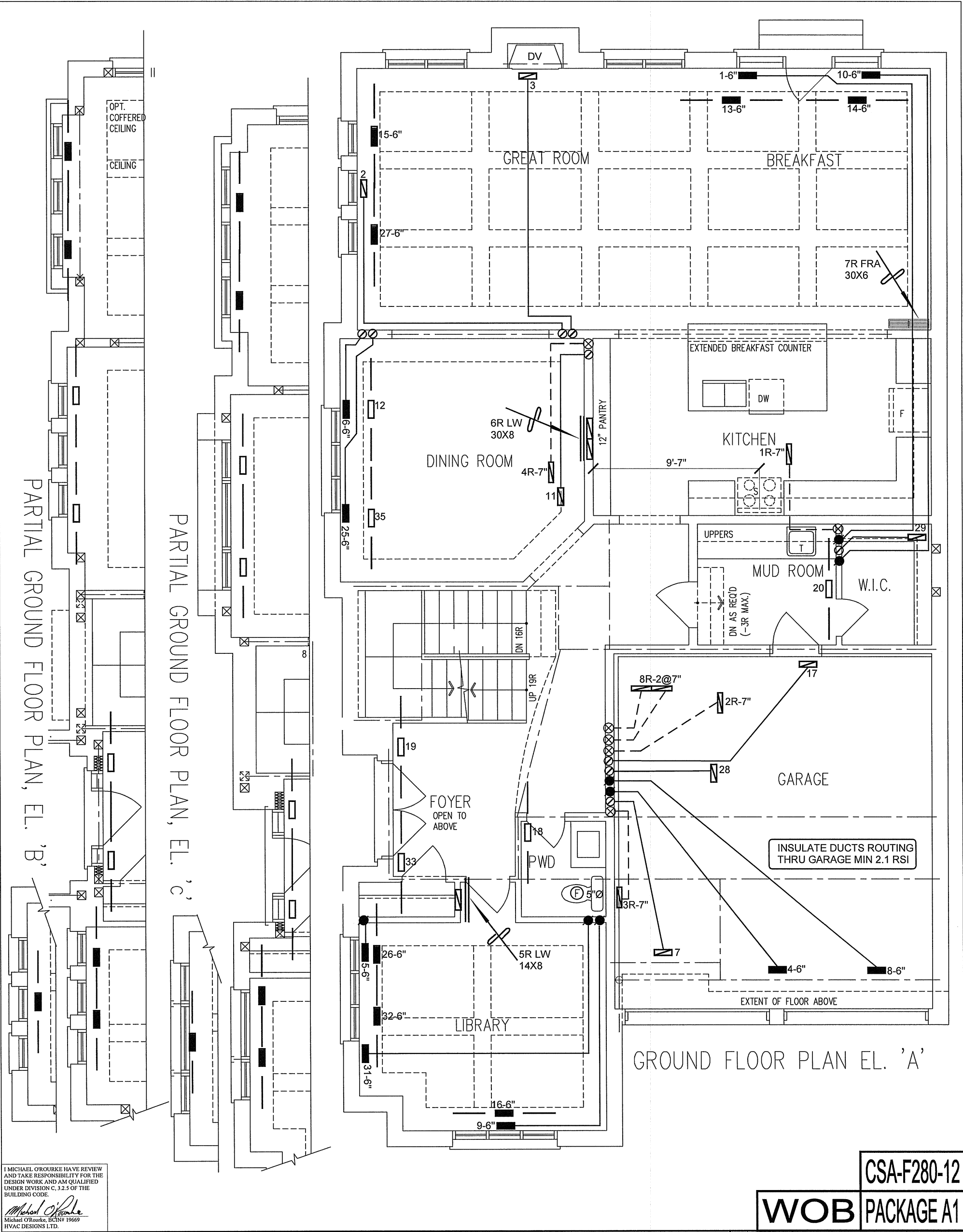
Scale

3/16" = 1'-0"

BCIN# 19669

LO#

96512



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.

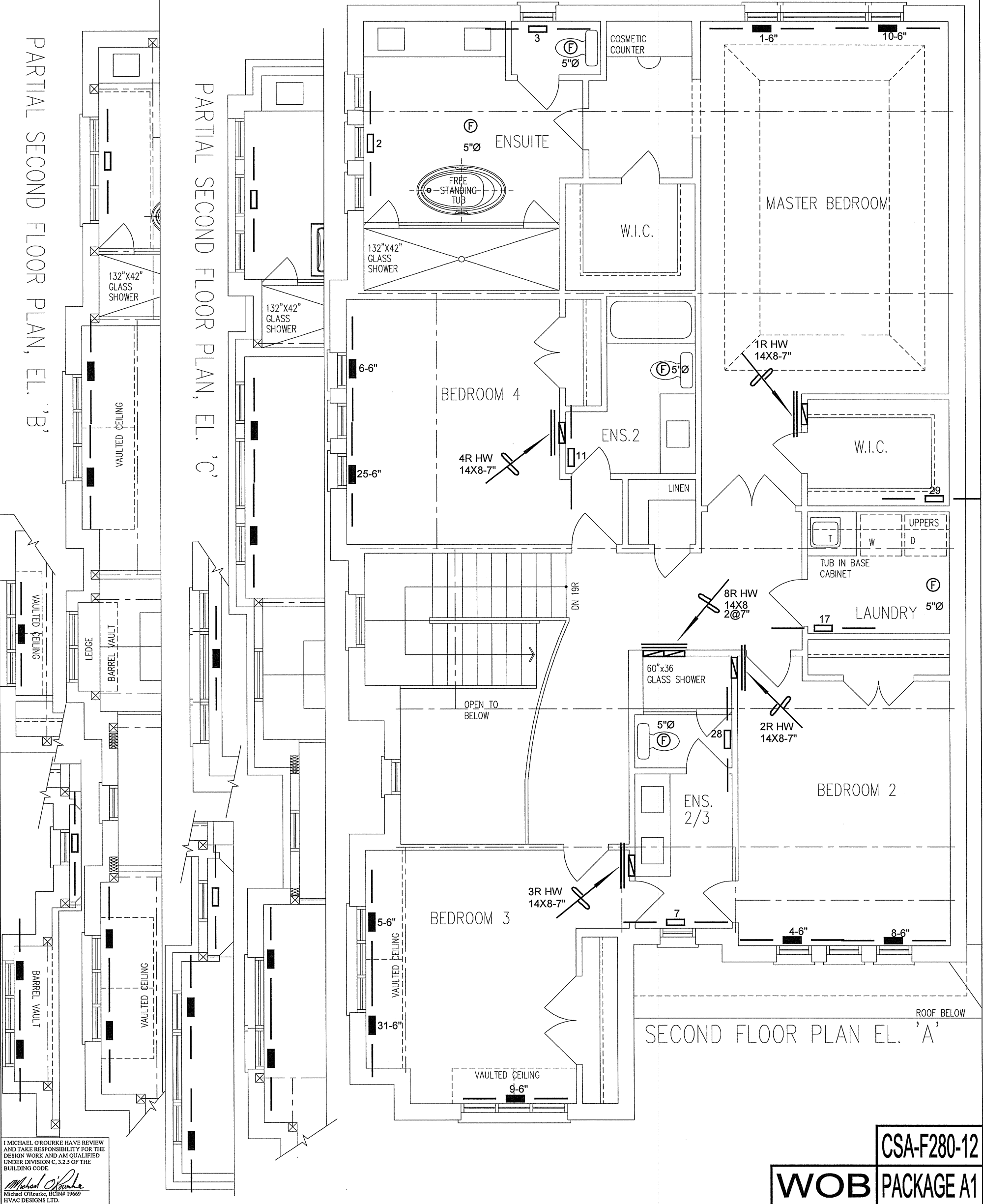
CSA-F280-12

WOB PACKAGE A1

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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date
REVISIONS								

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Client		 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.	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
BROOKVALLEY 4204 - WOB			BCIN# 19669	
3646 sqft			LO#	96512



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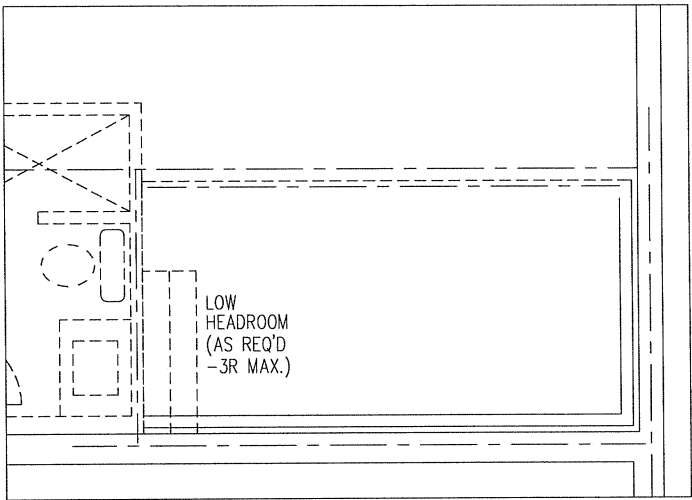
Michael O'Rourke

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

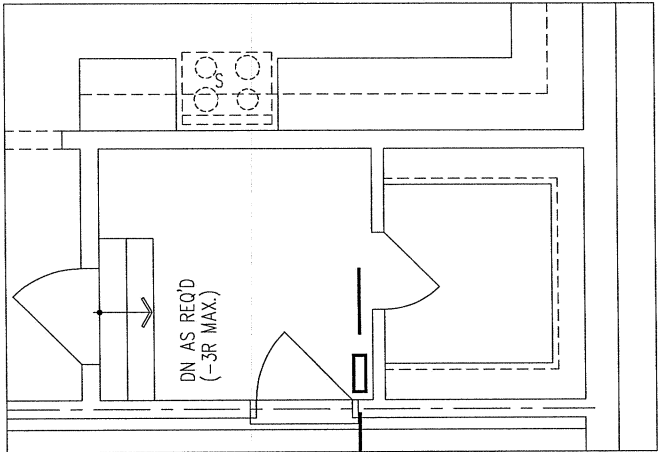
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							REVISIONS		

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
BROOKVALLEY 4204 - WOB			BCIN# 19669	
3646 sqft			LO#	96512



PART. BASEMENT PLAN EL. 'A' FOR
-2R/3R SUNKEN MUDROOM



PART. GROUND FLOOR PLAN EL. 'A'
FOR -2R/3R SUNKEN MUDROOM

I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
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BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
WOB PACKAGE A1

HVAC LEGEND								3.		
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GOLD PARK HOMES			STRIP PLAN HEATING LAYOUT	
Project Name			Date	MAY/2022
PINE VALLEY PH 2 VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
BROOKVALLEY 4204 - WOB			BCIN# 19669	
3646 sqft	LO# 96512			