


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.
Municipality VAUGHAN (WOODBIDGE)			Postal code
Plan number/ other description			Lot/con.
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: 4004 - LOT 94 - WOB THE DALERIDGE 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.			
November 2, 2018 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 & TESTON THE DALERIDGE DATE: Nov-18 WINTER NATURAL AIR CHANGE RATE 0.407 CSA-F280-12
BUILDER: GOLD PARK HOMES TYPE: 4004 - LOT 94 - WOB LO# 80584 SUMMER NATURAL AIR CHANGE RATE 0.137 HEAT LOSS AT °F. 76 SB-12 PACKAGE A1
GFA: 3312

ROOM USE	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	LOFT	ENS-3	HEAT GAIN AT °F.
EXP. WALL CLG. HT.	33 10	29 9	10 9	12 9	38 9	13 9	6 9	40 9	6 9	76
FACTORS										
GRS.WALL AREA	330	261	90	108	342	117	54	360	54	
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	18 383 288	0 0 0	0 0 0	8 170 128	0 0 0	0 0 0	
EAST	0 0 0	0 0 0	0 0 0	0 0 0	30 538 1247	0 0 0	0 0 0	40 851 1662	7 149 291	
SOUTH	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	18 383 448	0 0 0	30 638 747	0 0 0	
WEST	21.3 41.6 34 724 1413	26 553 1080	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SKYL.T.	37.2 101.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
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	
NET EXPOSED WALL	4.5 0.8 296 1321 222 235 1049 177	90 402 68 90 402 68	312 1392 235 99 442 74	46 205 35	290 1294 218 47 210 35	236 303 139 108 139 63	50 137 63 0 0 0	0 0 0	84 214 36	
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 0.6 270 347 159 210 270 123	160 205 94	192 246 113	202 259 119 208 267 122 84 108 49	50 137 63 0 0 0	30 77 13	0 0 0	0 0 0	0 0 0	
NO ATTIC EXPOSED CLG	2.7 1.3 0 0 0	0 0 0	0 0 0	252 643 108	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
BASEMENT/CRAWL HEAT LOSS	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	
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	2391	1872	607	1031	3070	1092	560	3224	712	
SUB TOTAL HT GAIN	1794	1380	162	468	1771	645	225	2829	426	
LEVEL FACTOR / MULTIPLIER	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	
AIR CHANGE HEAT LOSS	822	644	209	355	1056	375	193	1109	245	
AIR CHANGE HEAT GAIN	158	122	14	41	156	57	20	249	37	
DUCT LOSS	0	0	0	0	413	0	75	0	96	
DUCT GAIN	0	0	0	0	278	0	24	0	46	
HEAT GAIN PEOPLE	2	480	0	1	240	1	240	0	0	
HEAT GAIN APPLIANCES/LIGHTS	610	610	610	610	610	610	0	610	0	
TOTAL HT LOSS BTU/H	3213	2515	816	1386	4538	1467	828	4333	1052	
TOTAL HT GAIN x 1.3 BTU/H	3955	1952	229	1767	3971	2018	349	4794	662	

ROOM USE	DIN	KT/GT	LN/MD	ENS-4	FOY	STUDY	WOB	BAS
EXP. WALL CLG. HT.	24 11	76 11	21 13	11 9	50 11	10 11	42 10	138 10
FACTORS								
GRS.WALL AREA	264	836	273	99	550	110	420	966
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0 0 0	0 0 0	8 170 128	0 0 0	0 0 0	23 489 367	0 0 0	8 170 128
EAST	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	28 596 687	23 489 573	0 0 0	8 170 199	0 0 0	0 0 0	0 0 0	0 0 0
WEST	21.3 41.6 0 0 0	121 2575 5028	0 0 0	0 0 0	0 0 0	0 0 0	87 1851 3615	0 0 0
SKYL.T.	37.2 101.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	20 505 85 40 1010 170	0 0 0
DOORS	25.2 4.3 0 0 0	25 631 106	20 505 85 0 0 0	46 1161 196	504 2249 379	87 388 65	313 1397 235 0 0 0	0 0 0
NET EXPOSED WALL	4.5 0.8 236 1053 177	667 2977 501	245 1093 184 91 406 68	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
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
EXPOSED CLG	1.3 0.6 0 0 0	0 0 0	0 0 0	176 226 103	0 0 0	0 0 0	0 0 0	0 0 0
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
BASEMENT/CRAWL HEAT LOSS	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
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
SUBTOTAL HT LOSS	1649	6672	1769	802	3411	878	317	3961
SUB TOTAL HT GAIN	875	6208	397	371	574	433	4071	6631
LEVEL FACTOR / MULTIPLIER	0.30 0.55	0.30 0.55	0.30 0.55	0.20 0.34	0.30 0.55	0.30 0.55	0.50	1.23
AIR CHANGE HEAT LOSS	909	3677	975	276	1879	484	3935	13205
AIR CHANGE HEAT GAIN	77	546	35	33	51	38	0	395
DUCT LOSS	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	610	610	610	610	610	610	0	610
TOTAL HT LOSS BTU/H	2558	10349	2743	1078	5290	1361	4388	19836
TOTAL HT GAIN x 1.3 BTU/H	2030	9574	1355	525	812	1406	5116	2020

TOTAL HEAT GAIN BTU/H: 43073 TONS: 3.59 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 67751 TOTAL COMBINED HEAT LOSS BTU/H: 70932

Michael O'Rourke

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESTHE DALERIDGE
TYPE: 4004 - LOT 94 - WOB

DATE: Nov-18

GFA: 3312 LO# 80584

HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 67,751 TOTAL HEAT GAIN 42,537
AIR FLOW RATE CFM 18.52 AIR FLOW RATE CFM 29.5furnace pressure 0.6
furnace filter 0.05
alc coil pressure 0.2
available pressure for s/a & r/a 0.35EL296UH090XE48C
FAN SPEED
LOW 0
MEDIUM 1105
HIGH 1525AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
DESIGN CFM = 1255
CFM @ .8" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	9	6
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	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-3	LOFT	MBR	ENS-3	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LN/MD	ENS	FOY	STUDY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.61	1.26	0.82	1.39	2.27	1.47	0.83	1.05	2.17	1.61	1.05	2.56	2.59	2.59	2.59	2.59	2.74	1.26	2.65	1.36	4.04	4.04	4.04	4.04
CFM PER RUN HEAT	30	23	15	26	42	27	15	20	40	30	19	47	48	48	48	48	51	23	49	25	75	75	75	75
RM GAIN MBH	1.98	0.98	0.23	1.77	1.99	2.02	0.35	0.52	2.40	1.98	0.66	2.03	2.39	2.39	2.39	2.39	1.35	0.98	0.41	1.41	1.19	1.19	1.19	1.19
CFM PER RUN COOLING	58	29	7	52	59	60	10	15	71	58	20	60	71	71	71	71	40	29	12	41	35	35	35	35
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	71	58	51	49	42	40	37	33	44	63	35	18	45	37	39	46	11	55	16	27	36	39	28	21
EQUIVALENT LENGTH	200	150	150	180	190	150	220	200	140	210	180	130	140	150	160	150	160	140	140	80	100	90	110	110
TOTAL EFFECTIVE LENGTH	271	208	201	229	232	190	257	233	184	273	215	148	185	187	199	199	171	195	156	107	136	129	138	131
ADJUSTED PRESSURE	0.06	0.08	0.09	0.08	0.07	0.09	0.07	0.07	0.09	0.06	0.08	0.12	0.09	0.09	0.09	0.09	0.1	0.09	0.13	0.16	0.13	0.13	0.12	0.13
ROUND DUCT SIZE	5	4	4	6	5	6	4	4	5	5	4	5	5	5	5	5	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	220	264	172	133	308	138	172	229	294	220	218	345	352	352	352	352	264	264	360	184	551	551	551	551
COOLING VELOCITY (ft/min)	426	333	80	265	433	306	115	172	521	426	229	441	521	521	521	521	459	333	88	301	257	257	257	257
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	D	C	D	C	D	A	D	C	A	A	A	A	C	C	D	C	B	B	B	C

TEMPERATURE RISE 63 °F

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BED-3	LOFT	FOY
RM LOSS MBH	4.04	4.04	2.27	2.17	2.65
CFM PER RUN HEAT	75	75	42	40	49
RM GAIN MBH	1.19	1.19	1.99	2.40	0.41
CFM PER RUN COOLING	35	35	59	71	12
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	19	32	48	57	25
EQUIVALENT LENGTH	120	120	200	200	120
TOTAL EFFECTIVE LENGTH	139	152	248	257	145
ADJUSTED PRESSURE	0.12	0.11	0.07	0.07	0.12
ROUND DUCT SIZE	5	5	5	5	5
HEATING VELOCITY (ft/min)	551	551	308	294	360
COOLING VELOCITY (ft/min)	257	257	433	521	88
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	C	D	D	D	D

SUPPLY AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	275	0.06	9.3	14	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	541	0.06	12	18	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	884	0.06	14.4	24	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	371	0.07	10	12	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	0	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8	BR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
AIR VOLUME	135	155	85	85	85	170	185	145	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0	0	0	0	0	0	0	0	0

TYPE: 4004 - LOT 94 - WOB
SITE NAME: PINE VALLEY & TESTON

LO # 80584
THE DALERIDGE

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A. TOTAL		201.4 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	201.4	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	46.4	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
155.0 CFM	76 F
X	X
FACTOR	% LOSS
1.08	0.25


SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	✓
ENS-2	QTXEN050C	50	✓
ENS-3	QTXEN050C	50	✓
ENS-4	QTXEN050C	50	✓

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:	
HRAI #	001820
Date:	November-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																									
LO#: 80584		Model: 4004 - LOT 94 - WOB		Builder: GOLD PARK HOMES		Date: 02/11/2018																																																			
Volume Calculation				Air Change & Delta T Data																																																					
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5.2.3.1 Heat Loss due to Air Leakage				6.2.6 Sensible Gain due to Air Leakage																																																					
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$				$HG_{sdlb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																					
0.407 x 375.48 x 42 °C x 1.2 = 7741 W = 26411 Btu/h				= 0.137 x 375.48 x 7 °C x 1.2 = 437 W = 1492 Btu/h																																																					
5.2.3.2 Heat Loss due to Mechanical Ventilation				6.2.7 Sensible heat Gain due to Ventilation																																																					
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$				$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																					
155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h				155 CFM x 13 °F x 1.08 x 0.25 = 536 Btu/h																																																					
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																									
$HL_{airrr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl})\}$																																																									
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*HLairbv = Air leakage heat loss + ventilation heat loss
 *For a balanced or supply only ventilation system HLairve = 0

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4004 - LOT 94 - WOB	THE DALERIDGE	BUILDER: GOLD PARK HOMES
SFQT: 3312	LO# 80584	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):	47736.0	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:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	138.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	42.0 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	-

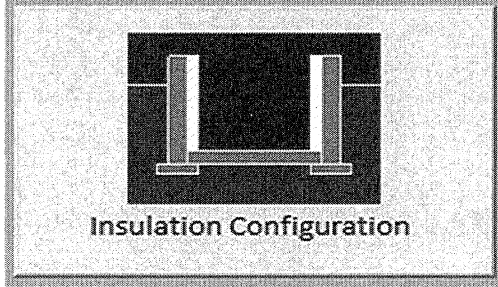
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

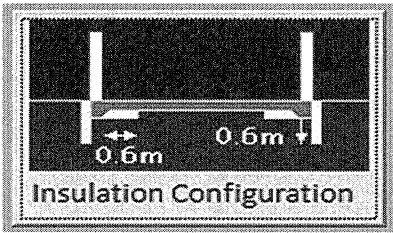
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	12.8	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	42.1	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.89	
Window Area (m ²):	0.7	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1161

TYPE: 4004 - LOT 94 - WOB
LO# 80584

THE DALERIDGE

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
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Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	9.8	
Width (m):	1.5	
Exposed Perimeter (m):	12.8	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		93

TYPE: 4004 - LOT 94 - WOB
LO# 80584

THE DALERIDGE

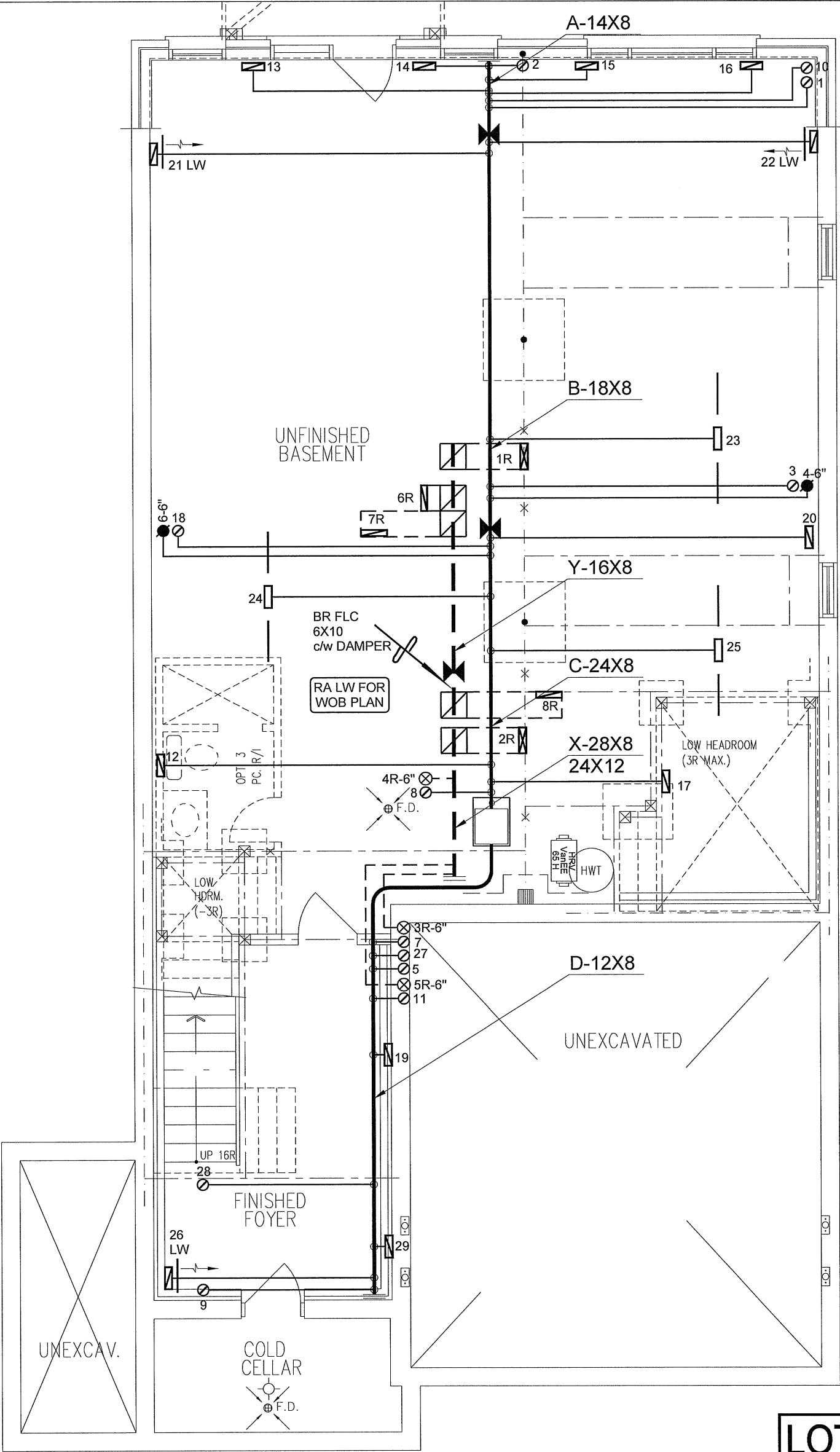
Air Infiltration Residential Load Calculator

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):	1351.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1801.9 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):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 4004 - LOT 94 - WOB
LO# 80584

THE DALERIDGE



BASEMENT PLAN ELEV. 'A' – LOT 94

LOT 94
CSA-F280-12
WOB PACKAGE A1

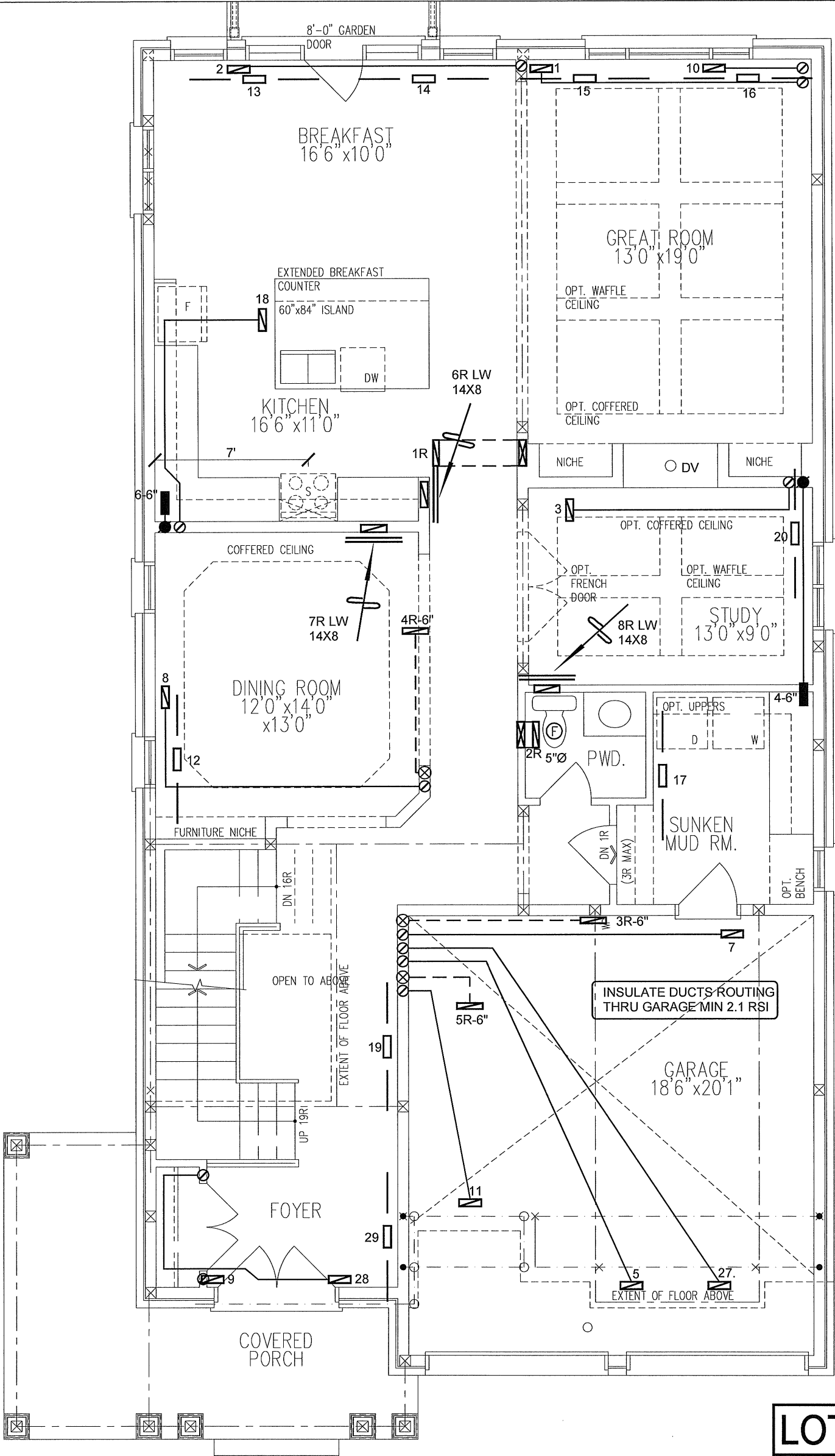
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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		<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 70932 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES			UNIT DATA		3RD FLOOR			BASEMENT	
Project Name			MAKE		2ND FLOOR			HEATING	
PINE VALLEY & TESTON			MODEL		1ST FLOOR			LAYOUT	
VAUGHAN, ONTARIO			EL296UH090XE48C		BASEMENT			Date	
THE DALERIDGE		INPUT		6 1 0			NOV/2018		
4004 - LOT 94 WOB 3312sqft		88 MBTU/H		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5/8" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			Scale		
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.		OUTPUT		85 MBTU/H			3/16" = 1'-0"		
		COOLING		3.5 TONS			BCIN# 19669		
		FAN SPEED		1255 cfm @ 0.6" w.c.			LO# 80584		



GROUND FLOOR PLAN ELEV. 'A' – LOT 94

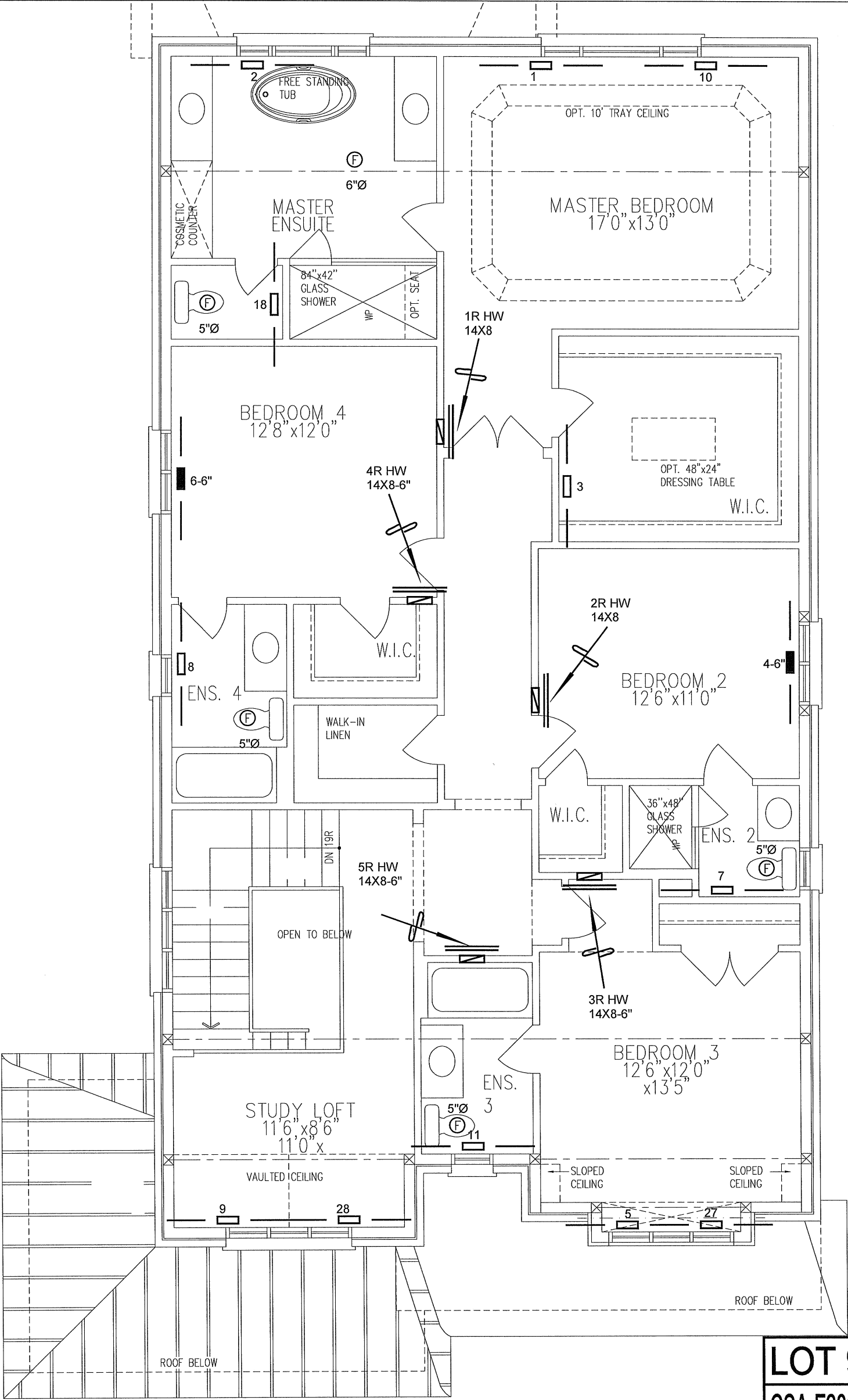
LOT 94
CSA-F280-12
WOB PACKAGE A1

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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	<div><p>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</p><p>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.</p></div>	Sheet Title		FIRST FLOOR HEATING LAYOUT	
Project Name		Date		NOV/2018	
PINE VALLEY & TESTON VAUGHAN, ONTARIO		Scale		3/16" = 1'-0"	
THE DALERIDGE		BCIN# 19669			
4004 - LOT 94 WOB 3312sqft		LO#	80584		



SECOND FLOOR PLAN ELEV. 'A' – LOT 94

LOT 94
CSA-F280-12
WOB
PACKAGE A1

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

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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GOLD PARK HOMES			SECOND FLOOR	
Project Name			HEATING	
PINE VALLEY & TESTON			LAYOUT	
VAUGHAN, ONTARIO			Date	NOV/2018
THE DALERIDGE		Scale	3/16" = 1'-0"	
4004 - LOT 94 WOB 3312sqft		BCIN# 19669		
		LO#	80584	