

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 BRAMPTON	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: 2501 Project: SUMMER RIDGE ESTATES		
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.				
June 10, 2024				
Date		Signature of Designer		

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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

SITE NAME: SUMMER RIDGE ESTATES				DATE: Jun-24				WINTER NATURAL AIR CHANGE RATE 0.308				HEAT LOSS AT °F. 74				CSA-F280-12			
BUILDER: ROYAL PINE HOMES				TYPE: 2501				GFA: 1905				SUMMER NATURAL AIR CHANGE RATE 0.097				HEAT GAIN AT °F. 11			
ROOM USE				MBR				ENS				BED-2				BED-3			
EXP. WALL				31				7				29				10			
CLG. HT.				9				9				9				9			
FACTORS																			
GRS.WALL AREA				279				63				261				90			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
NORTH				20.8	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST				20.8	32.9	0	0	0	0	0	0	44	914	1448	70	1454	2304	0	0
SOUTH				20.8	19.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST				20.8	32.9	26	540	856	17	353	560	0	0	0	0	0	0	0	0
SKYLT.				34.1	132.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS				19.6	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL				3.5	0.5	253	877	130	46	159	24	217	752	112	20	69	10	72	250
NET EXPOSED BSMT WALL ABOVE GR				3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG				1.3	0.6	326	408	182	107	134	60	175	219	98	136	170	76	80	100
NO ATTIC EXPOSED CLG				2.7	1.2	0	0	0	0	0	0	45	121	54	45	121	54	0	0
EXPOSED FLOOR				2.5	0.4	0	0	0	0	0	0	105	261	39	0	0	0	70	174
BASEMENT/CRAWL HEAT LOSS				0				0				0				0			
SLAB ON GRADE HEAT LOSS				0				0				0				0			
SUBTOTAL HT LOSS				1826				647				2268				1815			
SUB TOTAL HT GAIN								1167				1750				2444			
LEVEL FACTOR / MULTIPLIER				0.20	0.28			0.20	0.28			0.20	0.28			0.20	0.28		
AIR CHANGE HEAT LOSS				520				184				646				517			
AIR CHANGE HEAT GAIN				74				41				111				155			
DUCT LOSS				0				0				291				0			
DUCT GAIN				0				0				293				0			
HEAT GAIN PEOPLE				240		2	480	0	0	0	0	1	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				829				0				829				829			
TOTAL HT LOSS BTU/H				2346				831				3205				2332			
TOTAL HT GAIN x 1.3 BTU/H				3315				889				4189				4767			

ROOM USE				LV/DN				K/B/F				LAUN				PWD			
EXP. WALL				35				38				7				4			
CLG. HT.				10				10				9				11			
FACTORS																			
GRS.WALL AREA				350				380				63				44			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
NORTH				20.8	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST				20.8	32.9	34	706	1119	0	0	0	0	0	0	0	0	0	0	0
SOUTH				20.8	19.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST				20.8	32.9	0	0	0	73	1517	2403	0	0	0	0	0	0	0	0
SKYLT.				34.1	132.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS				19.6	2.9	20	392	58	0	0	0	0	0	0	0	20	392	58	0
NET EXPOSED WALL				3.5	0.5	296	1026	152	307	1064	158	63	218	32	44	153	23	90	312
NET EXPOSED BSMT WALL ABOVE GR				3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG				1.3	0.6	0	0	0	42	53	23	75	94	42	0	0	0	0	0
NO ATTIC EXPOSED CLG				2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR				2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0				0				0				0			
SLAB ON GRADE HEAT LOSS				0				0				0				0			
SUBTOTAL HT LOSS				2124				2634				312				153			
SUB TOTAL HT GAIN								1329				74				23			
LEVEL FACTOR / MULTIPLIER				0.30	0.56			0.30	0.56			0.20	0.28			0.30	0.56		
AIR CHANGE HEAT LOSS				1195				1481				89				86			
AIR CHANGE HEAT GAIN				84				164				5				1			
DUCT LOSS				0				0				0				0			
DUCT GAIN				0				0				0				0			
HEAT GAIN PEOPLE				240		0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				829				829				829				0			
TOTAL HT LOSS BTU/H				3319				4115				401				238			
TOTAL HT GAIN x 1.3 BTU/H				2915				4649				1180				31			

TOTAL HEAT GAIN BTU/H: 24163 TONS: 2.01 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 28725 TOTAL COMBINED HEAT LOSS BTU/H: 29999

SITE NAME: SUMMER RIDGE ESTATES
BUILDER: ROYAL PINE HOMES

TYPE: 2501

DATE: Jun-24

GFA: 1905

LO# 105275

HEATING CFM 770 COOLING CFM 770
TOTAL HEAT LOSS 28,725 TOTAL HEAT GAIN 23,974
AIR FLOW RATE CFM 26.81 AIR FLOW RATE CFM 32.12

furnace pressure 0.6
furnace filter 0.00
a/c coil pressure 0.26
available pressure for s/a & r/a 0.34

FACTORY INSTALLED

59SC6A040M14--10 CARRIER

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 39,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	5	3
R/A	0	0	4	2	1

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

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

plenium pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16
r/a pressure 0.16
r/a grille press. Loss 0.02
adjusted pressure r/a 0.14

FAN SPEED 40
LOW 0
MEDLOW 545
MEDIUM 770
MEDIUM HIGH 925
HIGH 0

DESIGN CFM = 770
CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

RUN #	1	2	3	4	5	6	7	10	13	14	15	17	18	19	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-3	BATH	MBR	LV/DN	K/B/F	K/B/F	LAUN	PWD	FOY	BAS	BAS	BAS
RM LOSS MBH.	1.17	0.83	1.60	1.60	1.17	1.17	0.74	1.17	3.32	2.06	2.06	0.40	0.24	1.10	3.37	3.37	3.37
CFM PER RUN HEAT	31	22	43	43	31	31	20	31	89	55	55	11	6	29	90	90	90
RM GAIN MBH.	1.66	0.89	2.09	2.09	2.38	2.38	0.16	1.66	2.91	2.32	2.32	1.18	0.03	0.14	0.58	0.58	0.58
CFM PER RUN COOLING	53	29	67	67	77	77	5	53	94	75	75	38	1	5	19	19	19
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16
ACTUAL DUCT LGH.	31	42	48	52	63	55	37	37	48	15	28	21	7	37	22	8	32
EQUIVALENT LENGTH	200	110	130	140	190	170	140	180	140	120	100	160	140	130	110	130	150
TOTAL EFFECTIVE LENGTH	231	152	178	192	253	225	177	217	188	135	128	181	147	167	132	138	182
ADJUSTED PRESSURE	0.07	0.11	0.09	0.09	0.07	0.07	0.09	0.08	0.08	0.12	0.13	0.09	0.11	0.1	0.12	0.11	0.09
ROUND DUCT SIZE	5	4	5	5	6	6	4	5	6	5	5	4	4	4	6	6	6
HEATING VELOCITY (ft/min)	228	252	316	316	158	158	229	228	454	404	404	126	69	333	459	459	459
COOLING VELOCITY (ft/min)	389	333	492	492	393	393	57	389	479	551	551	436	11	57	97	97	97
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	C	A	C	C	B	B	C	C	B	A	A	C	C	B	A	A	B

RUN #	ROOM NAME	RM LOSS MBH.	CFM PER RUN HEAT	RM GAIN MBH.	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH.	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
1	MBR	1.17	31	1.66	53	0.17	31	200	231	0.07	5	228	389	3X10	C
2	ENS	0.83	22	0.89	29	0.17	42	110	152	0.11	4	252	333	3X10	A
3	BED-2	1.60	43	2.09	67	0.17	48	130	178	0.09	5	316	492	3X10	C
4	BED-2	1.60	43	2.09	67	0.17	52	140	192	0.09	5	316	492	3X10	C
5	BED-3	1.17	31	2.38	77	0.17	63	190	253	0.07	6	158	393	4X10	B
6	BED-3	1.17	31	2.38	77	0.17	55	170	225	0.07	6	158	393	4X10	B
7	BATH	0.74	20	0.16	5	0.17	37	140	177	0.09	4	229	57	3X10	C
10	MBR	1.17	31	1.66	53	0.17	37	180	217	0.08	5	228	389	3X10	C
13	LV/DN	3.32	89	2.91	94	0.16	48	140	188	0.12	6	454	479	4X10	B
14	K/B/F	2.06	55	2.32	75	0.17	15	120	135	0.13	5	404	551	3X10	A
15	K/B/F	2.06	55	2.32	75	0.17	28	100	128	0.13	5	404	551	3X10	A
17	LAUN	0.40	11	1.18	38	0.17	21	160	181	0.09	4	126	436	3X10	C
18	PWD	0.24	6	0.03	1	0.17	7	130	147	0.11	4	69	11	3X10	C
19	FOY	1.10	29	0.14	5	0.17	37	130	167	0.1	4	333	57	3X10	B
21	BAS	3.37	90	0.58	19	0.16	22	110	132	0.12	6	459	97	4X10	A
22	BAS	3.37	90	0.58	19	0.16	8	130	138	0.11	6	459	97	4X10	A
23	BAS	3.37	90	0.58	19	0.16	32	150	182	0.09	6	459	97	4X10	B

SUPPLY AIR TRUNK SIZE															RETURN AIR TRUNK SIZE														
	TRUNK	STATIC	ROUND	RECT						TRUNK	STATIC	ROUND	RECT						TRUNK	STATIC	ROUND	RECT							
	CFM	PRESS.	DUCT	DUCT				VELOCITY		CFM	PRESS.	DUCT	DUCT				VELOCITY		CFM	PRESS.	DUCT	DUCT				VELOCITY			
							(ft/min)										(ft/min)									(ft/min)			
TRUNK A	312	0.11	8.4	8	x	8	702	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0						
TRUNK B	270	0.07	8.9	10	x	8	486	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0						
TRUNK C	455	0.07	10.8	16	x	8	512	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0						
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0						
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0						
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	0						

RETURN AIR #	1	2	3	4	5	6	BR
FLOOR	2	2	2	2	1	1	B
AIR VOLUME	85	85	85	85	120	175	135
PLENUM PRESSURE	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ACTUAL DUCT LGH.	39	64	57	47	21	40	14
EQUIVALENT LENGTH	195	250	245	215	135	270	135
TOTAL EFFECTIVE LH	234	314	302	262	156	310	149
ADJUSTED PRESSURE	0.06	0.05	0.05	0.05	0.09	0.05	0.10
ROUND DUCT SIZE	6	6	6	6	6	8	6
INLET GRILL SIZE	8	8	8	8	8	8	8
INLET GRILL SIZE	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	24	14

TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	770	0.05	14.3	24	x	8	578
TRUNK Y	430	0.05	11.5	16	x	8	484
TRUNK Z	0	0.05	0	0	x	8	0
DROP	770	0.05	14.3	24	x	10	462

TYPE: 2501
SITE NAME: SUMMER RIDGE ESTATES

LO # 105275

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>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>159.0</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
TOTAL		<u>63.6</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>159</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>95.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>63.6</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 CFM	X 74 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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

BUILDER:	
ROYAL PINE 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:	June-24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 105275	Model: 2501	Builder: ROYAL PINE HOMES	Date: 6/10/2024																																																									
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																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.308 x 202.35 x 41 °C x 1.2 = 3084 W = 10524 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.097 x 202.35 x 6 °C x 1.2 = 143 W = 489 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 74 °F x 1.08 x 0.25 = 1274 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 11 °F x 1.08 x 0.25 = 189 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												
				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2501	BUILDER: ROYAL PINE HOMES
SFQT: 1905	SITE: SUMMER RIDGE ESTATES
LO# 105275	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.60

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	25725.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	2.10	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 47.0 ft	WIDTH: 23.0 ft	EXPOSED PERIMETER:	92.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
PERFORMANCE****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+1.5	21.40
Basement Walls Minimum RSI (R)-Value	20	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	1.6	-
Skylights Maximum U-Value	2.6	-
Space Heating Equipment Minimum AFUE	96%	-
HRV/ERV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.9	-

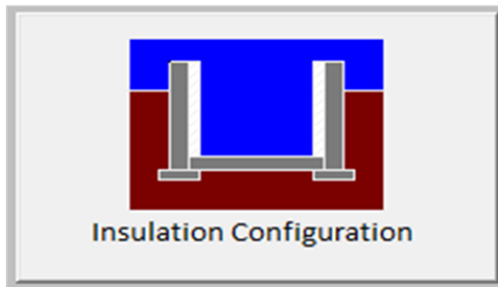
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.3	 Insulation Configuration
Floor Width (m):	7.0	
Exposed Perimeter (m):	28.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.7	
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):		896

TYPE: 2501
LO# 105275

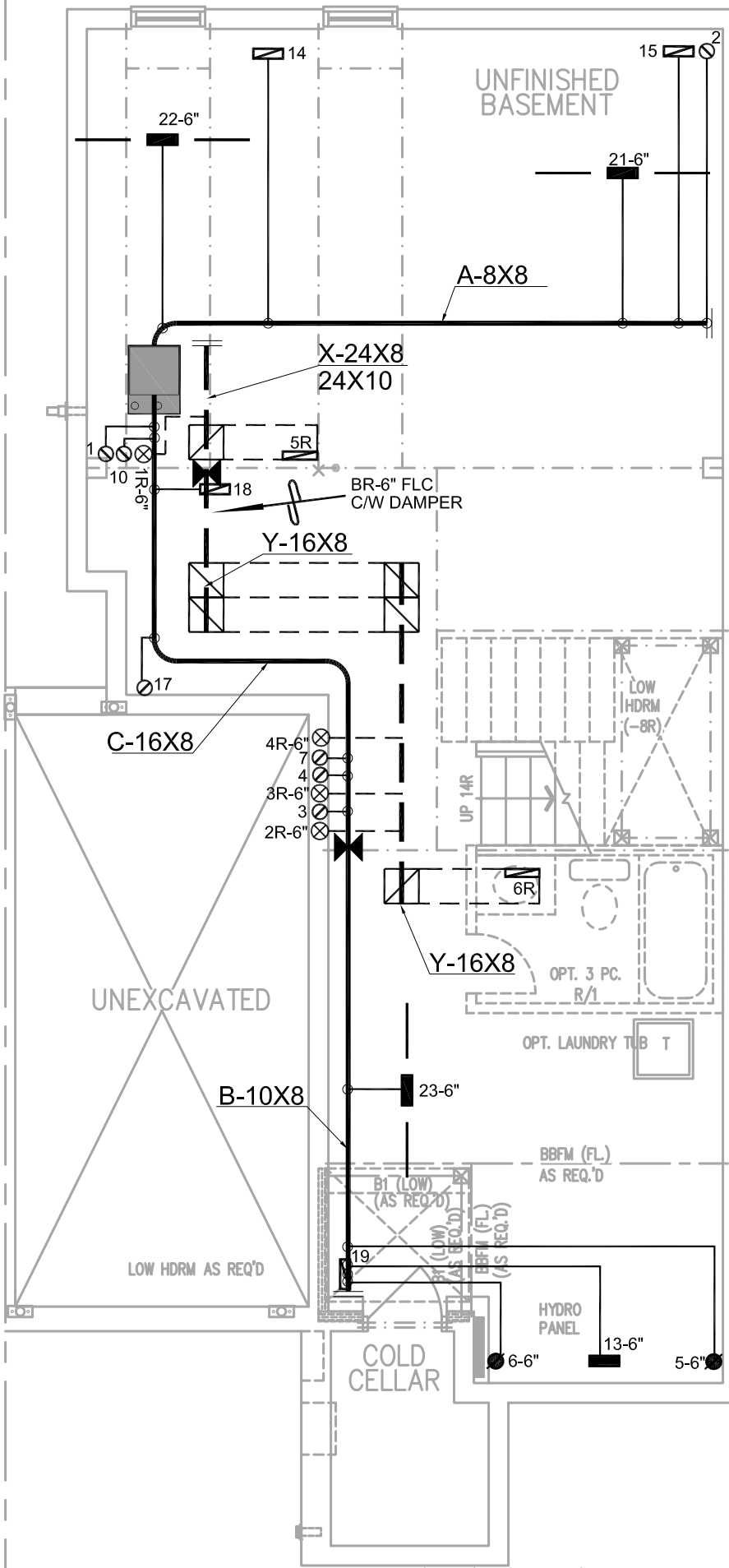
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

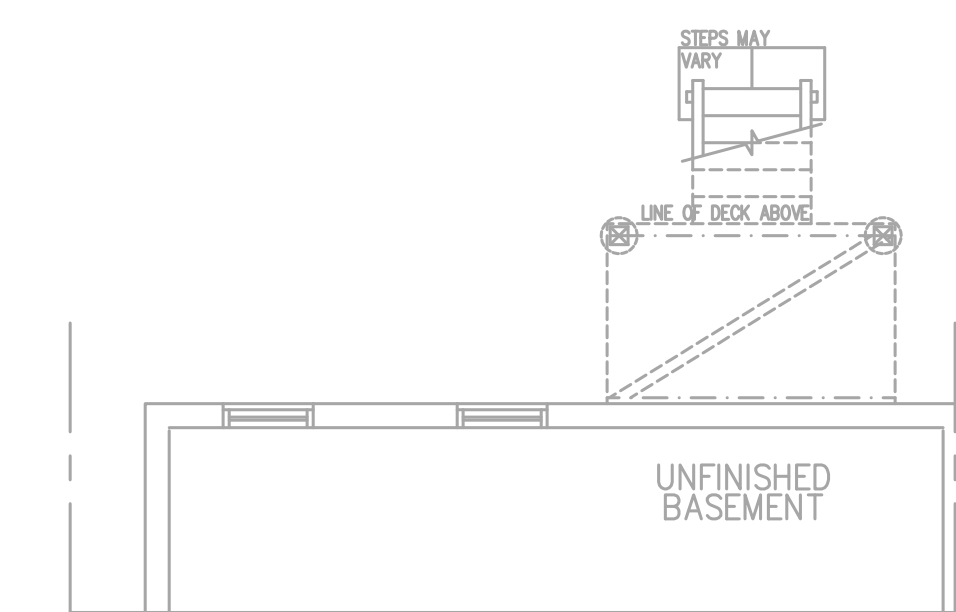
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.62			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	728.5			
Air Leakage/Ventilation				
Air Tightness Type:	Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	816.0 cm ²		
	3.00	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.308			
Cooling Air Leakage Rate (ACH/H):	0.097			

TYPE: 2501

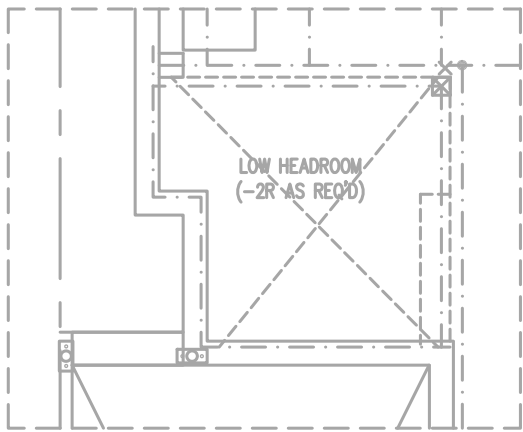
LO# 105275



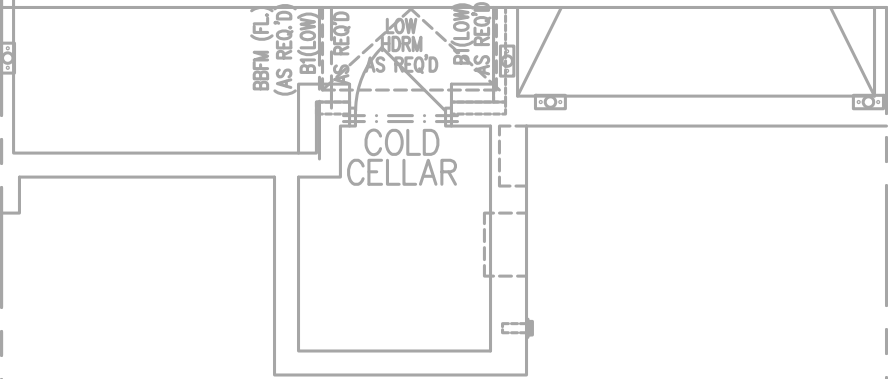
BASEMENT PLAN ELEV 'A1' (REV)



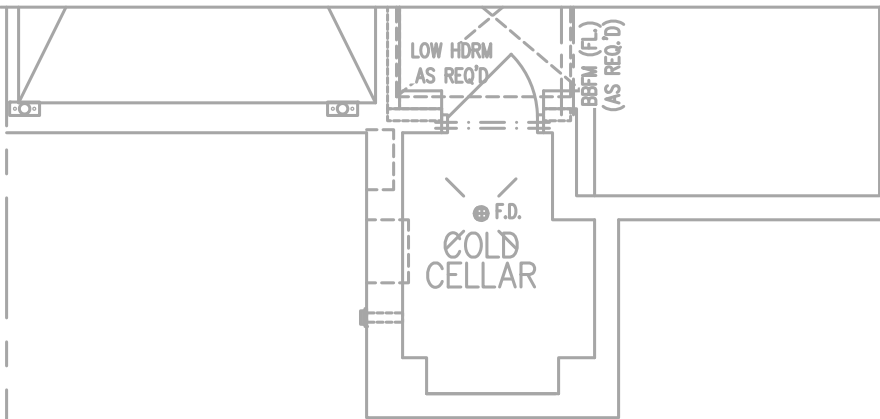
PART. BASEMENT PLAN – W.O.D. CONDITION



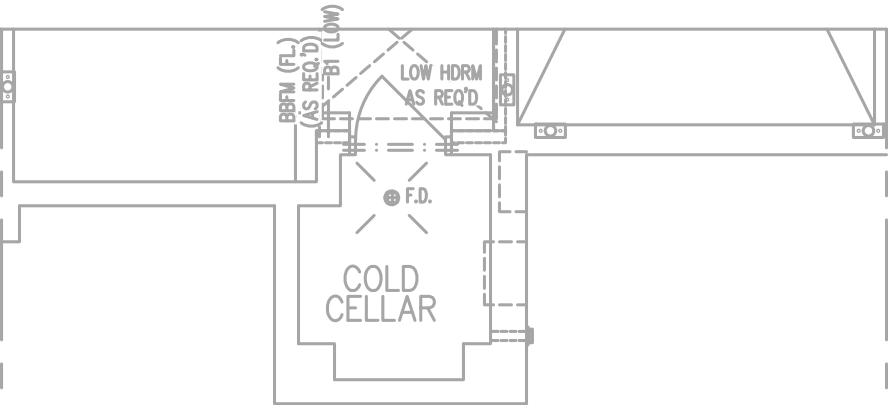
PARTIAL BASEMENT PLAN ELEV 'A1' (REV)
(WITH SUNKEN POWDER/GARAGE ENTRY)



PARTIAL BASEMENT PLAN ELEV 'A2'

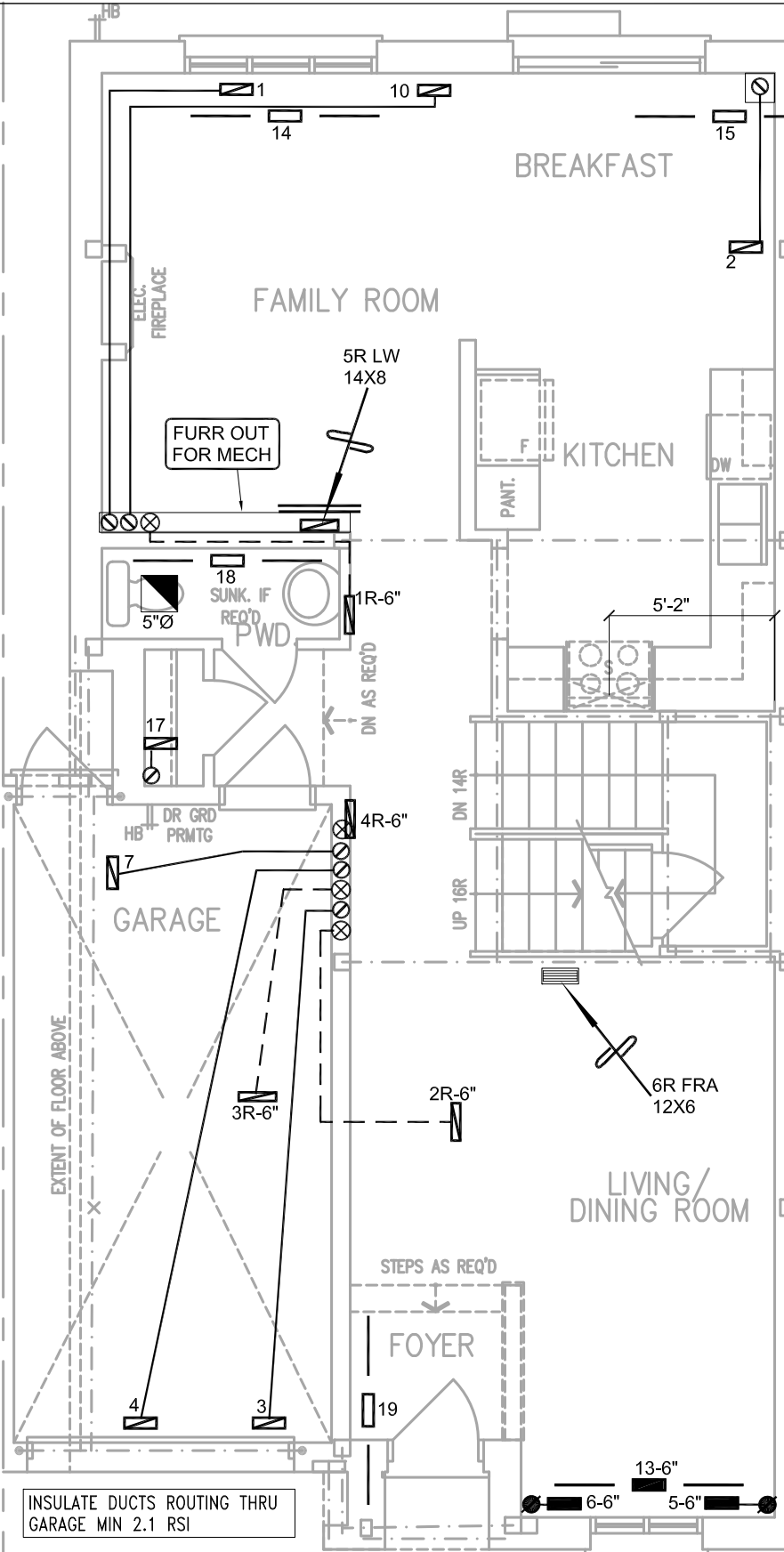


PART. BASEMENT PLAN ELEV 'B1' (REV)

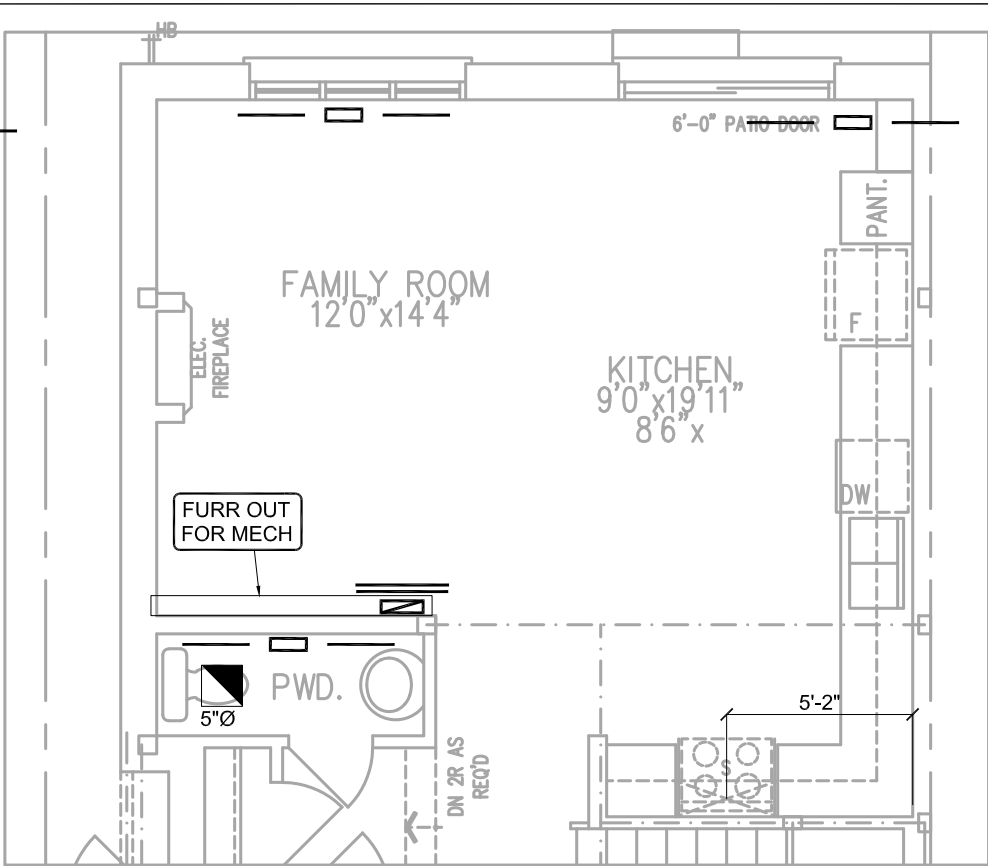


PARTIAL BASEMENT PLAN ELEV 'B2'

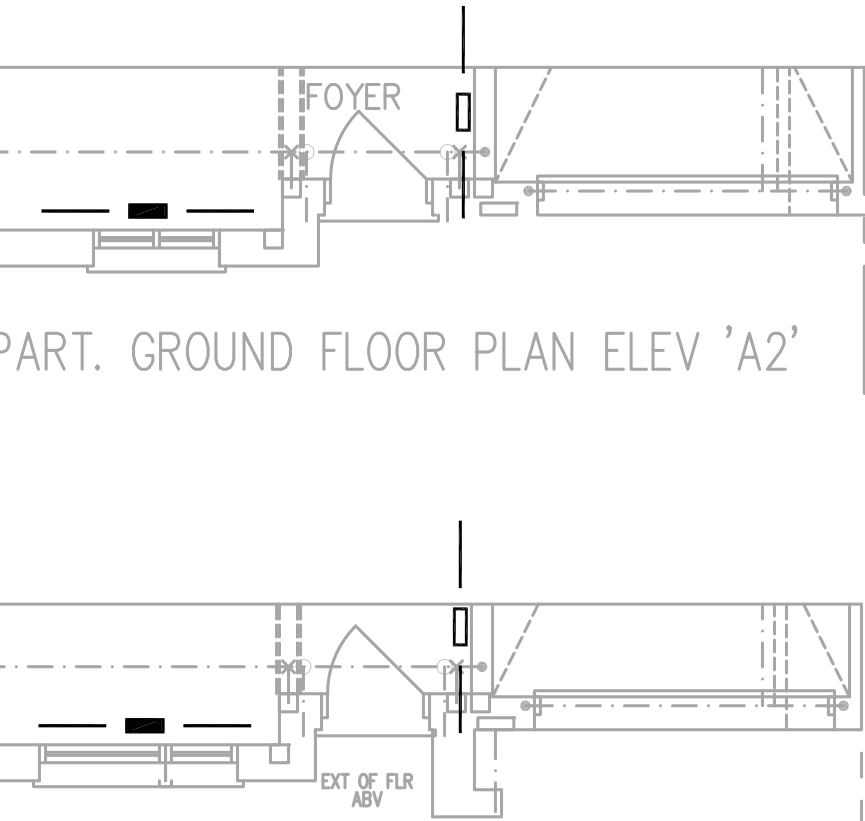
HVAC LEGEND								3.			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.			
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.			
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS			
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.						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 BCIN # 19669 HVAC Designs Ltd.		SB-12 PERFORMANCE			
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.				HEAT LOSS 29999 BTU/H		# OF RUNS S/A R/A FANS		Sheet Title	
ROYAL PINE HOMES						UNIT DATA		3RD FLOOR		BASEMENT HEATING LAYOUT	
Project Name SUMMER RIDGE ESTATES BRAMPTON, ONTARIO						MAKE CARRIER		2ND FLOOR		9 4 3	
						MODEL 59SC6A040M14--10		1ST FLOOR		5 2 2	
						INPUT 40 MBTU/H		BASEMENT		3 1 0	
2501		OUTPUT 39 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		Date JUNE/2024					
1905 sqft		COOLING 2.0 TONS				Scale 3/16" = 1'-0"					
		FAN SPEED 770 cfm @ 0.6" w.c.				BCIN# 19669					
						LO# 105275					



GROUND FLOOR PLAN ELEV 'A1' (REV)



PARTIAL GROUND FLOOR PLAN, ELEV 'A1' (REV)
(W/ OPT. KITCHEN LAYOUT)
(ELEV. 'B1' REV. & 'B2' SIMILAR)

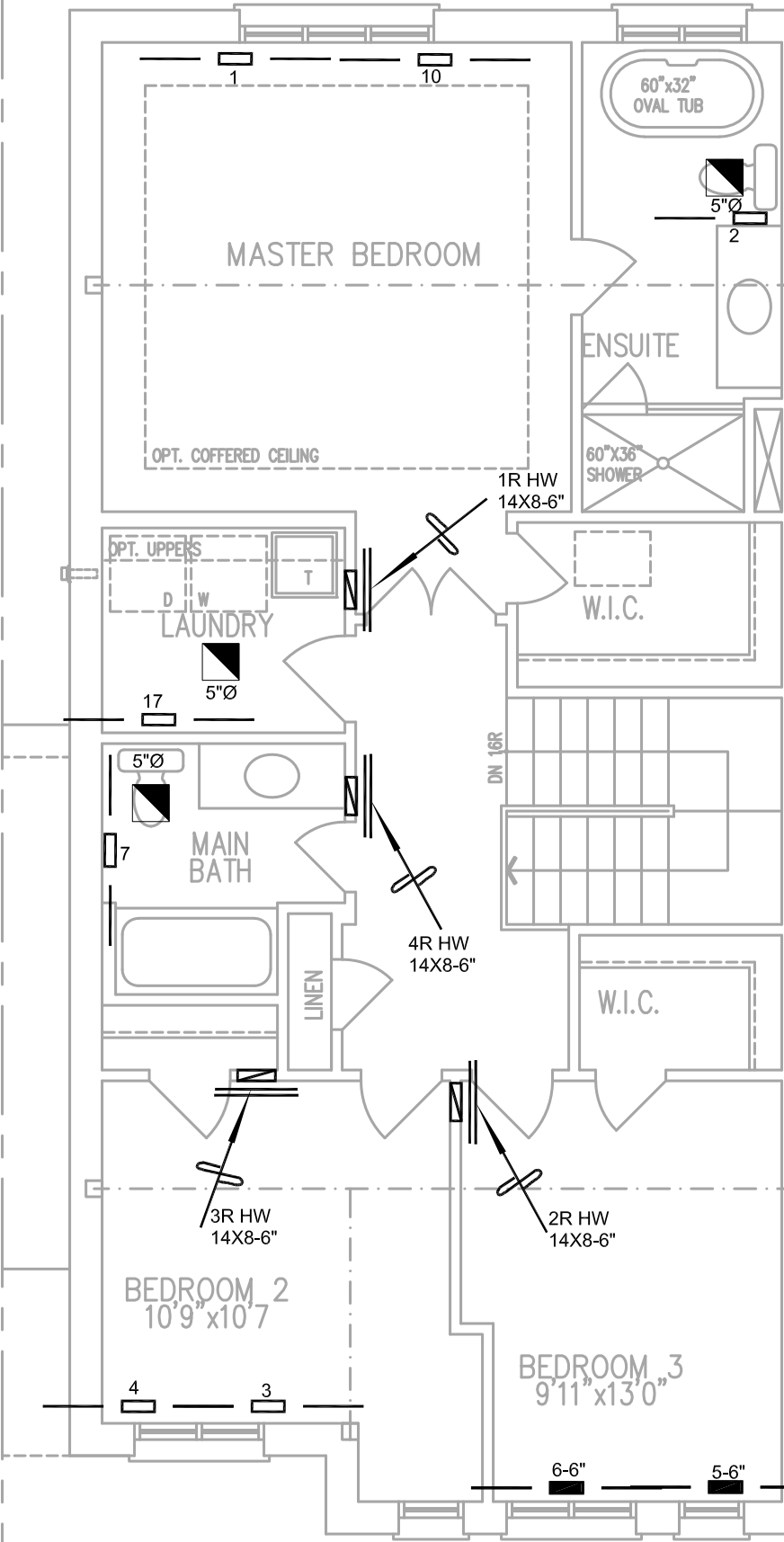


PART. GROUND FLOOR PLAN ELEV 'A2'

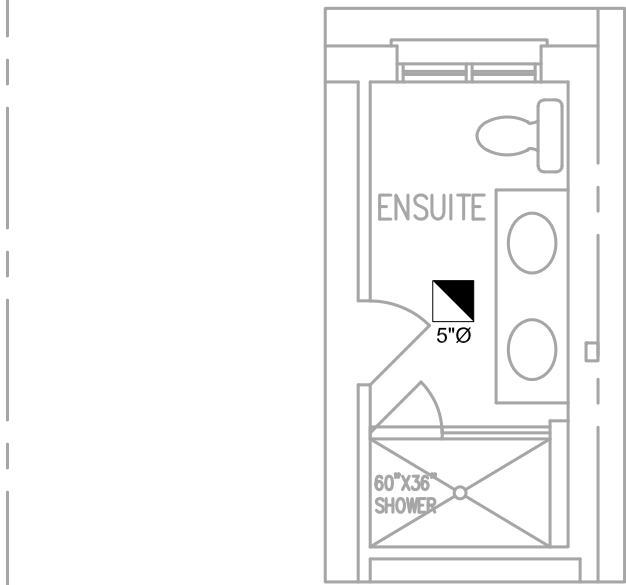


PART. GRND FLR PLAN ELEV 'B1' (REV)

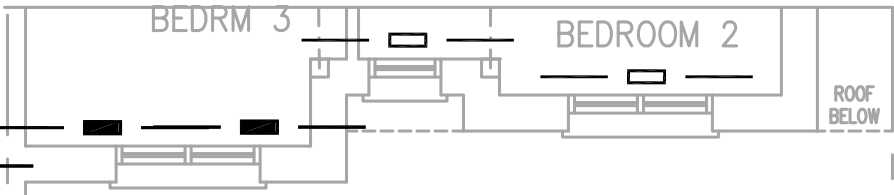
HVAC LEGEND								3.			
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Client ROYAL PINE HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services								Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name SUMMER RIDGE ESTATES BRAMPTON, ONTARIO										Date JUNE/2024	
2501 <											



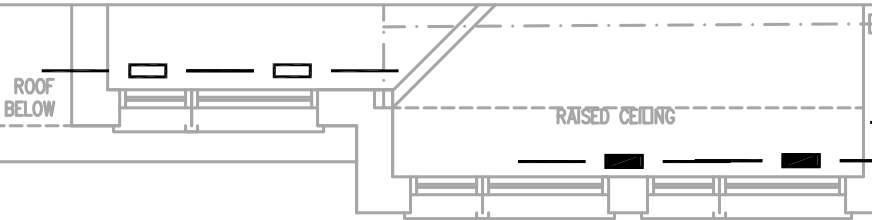
SECOND FLR PLAN ELEV 'A1' (REV)



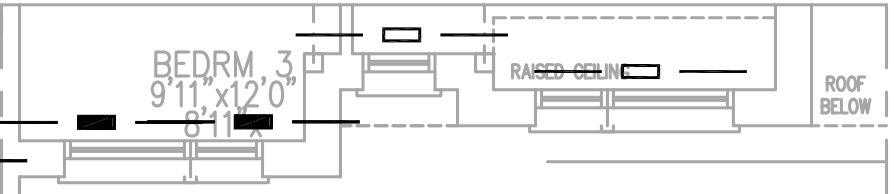
PARTIAL SECOND FLR PLAN ELEV 'A1' (REV)
OPT. ENSUITE LAYOUT
(ELEV. 'B1' REV. & 'B2' SIMILAR)



PART. SECOND FLR PLAN ELEV 'A2'



PARTIAL SECOND FLR PLAN ELEV
'B1' (REV)



PART. SCND. FLR PLAN ELEV 'B2'

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
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Client		ROYAL PINE HOMES		Project Name		SUMMER RIDGE ESTATES BRAMPTON, ONTARIO		2501		1905 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.		Sheet Title		SECOND FLOOR HEATING LAYOUT
								Date		JUNE/2024
								Scale		3/16" = 1'-0"
								BCIN#		19669
								LO#		105275