

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@hvacdsgns.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: 3201 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.				
May 15, 2024		 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: SUMMER RIDGE ESTATES												DATE: May-24				WINTER NATURAL AIR CHANGE RATE 0.282				HEAT LOSS ΔT °F. 74				CSA-F280-12											
BUILDER: ROYAL PIE HOMES												TYPE: 3201				GFA: 2232				LO# 105067				SUMMER NATURAL AIR CHANGE RATE 0.088				HEAT GAIN ΔT °F. 11				PERFORMANCE			
ROOM USE				MBR				ENS				BED-2		BED-3				ENS-2								BATH									
EXP. WALL				39				28				25		41				7								6									
CLG. HT.				9				9				9		9				9								9									
FACTORS																																			
GRS.WALL AREA		LOSS GAIN		335				241				215		353				60								52									
GLAZING				LOSS GAIN				LOSS GAIN				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	0	0				0	0	0								
EAST		20.8	32.9	0	0	0		0	0	0		29	603	954	51	1060	1679	0	0	0	0				0	0	0								
SOUTH		20.8	19.8	0	0	0		0	0	0		0	0	0	17	353	337	0	0	0	0				8	166	159								
WEST		20.8	32.9	39	810	1284		19	395	625		0	0	0	0	0	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	0	0				0	0	0								
DOORS		19.6	2.9	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0	0				0	0	0								
NET EXPOSED WALL		3.5	0.5	296	1028	152		222	769	114		186	645	96	285	987	146	60	209	31					44	151	22								
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.5	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	338	423	188		124	155	69		162	203	90	300	376	167	97	122	54					91	114	51								
NO ATTIC EXPOSED CLG		2.7	1.2	0	0	0		0	0	0		0	0	0	20	54	24	0	0	0					0	0	0								
EXPOSED FLOOR		2.5	0.4	0	0	0		0	0	0		162	403	60	0	0	0	77	192	28					0	0	0								
BASEMENT/CRAWL HEAT LOSS						0				0				0				0				0				0				0					
SLAB ON GRADE HEAT LOSS						0				0				0				0				0				0				0					
SUBTOTAL HT LOSS						2261				1319				1854				2829				522				431									
SUB TOTAL HT GAIN						1624				808				1200				2353				113				232									
LEVEL FACTOR / MULTIPLIER				0.20	0.23			0.20	0.23			0.20	0.23			0.20	0.23			0.20	0.23			0.20	0.23										
AIR CHANGE HEAT LOSS						529				309				434				662				122				101									
AIR CHANGE HEAT GAIN						95				47				70				138				7				14									
DUCT LOSS						0				0				229				0				64				0									
DUCT GAIN						0				0				253				0				12				0									
HEAT GAIN PEOPLE		240			2			480	0			1	240	1	240			0	0			0	0			0	0								
HEAT GAIN APPLIANCES/LIGHTS						1015				0				1015				1015				0				0									
TOTAL HT LOSS BTU/H						2791				1628				2516				3491				709				532									
TOTAL HT GAIN x 1.3 BTU/H						4179				1113				3611				4870				172				319									

ROOM USE			FAM			DIN			KT/BF			LAND			LND			W/R			FOY			MUD												BAS					
EXP. WALL			30			17			32			20			7			15			24			18												152					
CLG. HT.			10			10			10			10			9			10			11			11												9					
FACTORS																																									
GRS.WALL AREA			LOSS GAIN			300			170			320			200			60			150			264			198									912					
GLAZING						LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			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	0	0	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	0	0	0	0	0	0	0	0	9	187	296	6	125	197	0	0	0	0	0	0	0	0	0	0	0						
SOUTH			20.8	19.8	13	270	258	23	478	456	0	0	0	0	0	0	8	166	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
WEST			20.8	32.9	46	956	1514	0	0	0	47	976	1547	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	62	99				
SKYLT.			34.1	132.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
DOORS			19.6	2.9	0	0	0	0	0	0	0	0	0	20	392	58	0	0	0	0	0	0	40	783	116	20	392	58						20	392	58					
NET EXPOSED WALL			3.5	0.5	241	836	124	147	510	76	273	947	140	180	624	93	52	181	27	141	489	72	218	756	112	178	617	91						0	0	0					
NET EXPOSED BSMT WALL ABOVE GR			3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						456	1602	238					
EXPOSED CLG			1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	99	124	55	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
BASEMENT/CRAWL HEAT LOSS																																							5190		
SLAB ON GRADE HEAT LOSS																																									
SUBTOTAL HT LOSS						2061			988			1923			1016			471			676			1664			1009									7246					
SUB TOTAL HT GAIN						1896			532			1687			151			241			369			426			150									394					
LEVEL FACTOR / MULTIPLIER			0.30			0.36			0.30			0.36			0.30			0.23			0.30			0.36			0.30			0.36			0.50			0.78					
AIR CHANGE HEAT LOSS						751			360			700			370			110			246			606			367									5667					
AIR CHANGE HEAT GAIN						111			31			99			9			14			22			25			9									23					
DUCT LOSS						0			0			0			0			0			0			0			0									0					
DUCT GAIN						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		
HEAT GAIN APPLIANCES/LIGHTS						1015			1015			1015			0			1015			0			0			0									1015					
TOTAL HT LOSS BTU/H						2812			1347			2623			1386			582			922			2270			1376									12913					
TOTAL HT GAIN x 1.3 BTU/H						3928			2051			3641			207			1650			507			586			206									1862					

TOTAL HEAT GAIN BTU/H:

29090

TONS: 2.42

SITE NAME: SUMMER RIDGE ESTATES
BUILDER: ROYAL PIE HOMES

TYPE: 3201

DATE: May-24

GFA: 2232

LO# 105067

HEATING CFM 925 COOLING CFM 925
TOTAL HEAT LOSS 37,898 TOTAL HEAT GAIN 28,901
AIR FLOW RATE CFM 24.41 AIR FLOW RATE CFM 32.01

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

59SC6A060M17--16 CARRIER

AFUE = 97 %

INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	9	4
R/A	0	0	4	2	1

plenium pressure s/a 0.18
max s/a dif press. loss 0.01
min adjusted pressure s/a 0.17
r/a pressure 0.16
r/a grille press. Loss 0.02
adjusted pressure r/a 0.14

FAN SPEED 60
LOW 0
MEDLOW 0
MEDIUM 925
MEDIUM HIGH 0
HIGH 0

DESIGN CFM = 925
CFM @ .6" E.S.P.

TEMPERATURE RISE 58 °F

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	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-3	ENS-2	MBR	BATH	FAM	DIN	KT/BF	KT/BF	LAND	LND	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.40	1.63	1.26	1.26	1.75	1.75	0.71	1.40	0.53	1.41	1.35	1.31	1.31	1.39	0.58	0.92	2.27	1.38	3.23	3.23	3.23	3.23
CFM PER RUN HEAT	34	40	31	31	43	43	17	34	13	34	33	32	32	34	14	23	55	34	79	79	79	79
RM GAIN MBH.	2.09	1.11	1.81	1.81	2.43	2.43	0.17	2.09	0.32	1.96	2.05	1.82	1.82	0.21	1.65	0.51	0.59	0.21	0.47	0.47	0.47	0.47
CFM PER RUN COOLING	67	36	58	58	78	78	5	67	10	63	66	58	58	7	53	16	19	7	15	15	15	15
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
ACTUAL DUCT LGH.	69	68	39	35	27	20	39	62	45	61	39	54	60	26	53	6	19	38	57	50	33	10
EQUIVALENT LENGTH	180	160	150	170	210	190	160	180	200	190	140	130	170	150	200	170	150	150	190	200	150	130
TOTAL EFFECTIVE LENGTH	249	228	189	205	237	210	199	242	245	251	179	184	230	176	253	176	169	188	247	250	183	140
ADJUSTED PRESSURE	0.07	0.07	0.09	0.08	0.07	0.08	0.08	0.07	0.07	0.07	0.09	0.09	0.07	0.09	0.07	0.09	0.1	0.09	0.07	0.07	0.09	0.12
ROUND DUCT SIZE	6	5	5	5	6	6	4	6	4	6	5	5	5	4	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	173	294	228	228	219	219	195	173	149	173	242	235	235	390	103	264	404	390	403	403	403	403
COOLING VELOCITY (ft/min)	342	264	426	426	398	398	57	342	115	321	485	426	426	80	389	184	140	80	76	76	76	76
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	C	C	C	C	C	A	B	A	B	A	A	C	B	C	C	B	A	A	B	C

RUN #	25
ROOM NAME	FAM
RM LOSS MBH.	1.41
CFM PER RUN HEAT	34
RM GAIN MBH.	1.96
CFM PER RUN COOLING	63
ADJUSTED PRESSURE	0.17
ACTUAL DUCT LGH.	54
EQUIVALENT LENGTH	180
TOTAL EFFECTIVE LENGTH	234
ADJUSTED PRESSURE	0.07
ROUND DUCT SIZE	6
HEATING VELOCITY (ft/min)	173
COOLING VELOCITY (ft/min)	321
OUTLET GRILL SIZE	4X10
TRUNK	A

SUPPLY AIR TRUNK SIZE													RETURN AIR TRUNK SIZE												
	TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY		
	CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)		
TRUNK A	358	0.07	9.9	12	x	8	537	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0		
TRUNK B	571	0.07	11.8	16	x	8	642	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0		
TRUNK C	927	0.07	14.1	24	x	8	695	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	TRUNK W 0 0.05 0 0 x 8 0 TRUNK X 925 0.05 15.3 28 x 8 595 TRUNK Y 775 0.05 14.3 24 x 8 581 TRUNK Z 455 0.05 11.7 16 x 8 512 DROP 925 0.05 15.3 24 x 10 555
FLOOR	2	2	2	2	1	1											B	
AIR VOLUME	75	130	95	95	240	140	0	0.14	0.14	0	0	0	0	0	150			
PLENUM PRESSURE	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14				
ACTUAL DUCT LGH.	62	60	48	44	50	45	1	1	1	1	1	1	1	14				
EQUIVALENT LENGTH	205	195	200	155	220	175	0	0	0	0	0	0	0	135				
TOTAL EFFECTIVE LH	267	255	248	199	270	220	1	1	1	1	1	1	1	149				
ADJUSTED PRESSURE	0.05	0.06	0.06	0.07	0.05	0.07	14.32	14.32	14.32	14.32	14.32	14.32	14.32	0.10				
ROUND DUCT SIZE	6	7	6	6	9.2	6.9	0	0	0	0	0	0	0	6.5				
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	8				
	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	14				

TYPE: 3201
SITE NAME: SUMMER RIDGE ESTATES

LO # 105067

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>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</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
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
W/R	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 PIE 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-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#: 105067		Model: 3201		Builder: ROYAL PIE HOMES			Date: 2024-05-15																																																										
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																																																												
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.282 x 237.79 x 41 °C x 1.2 = 3322 W = 11335 Btu/h					$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.088 x 237.79 x 6 °C x 1.2 = 154 W = 526 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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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 3201	BUILDER: ROYAL PIE HOMES
SFQT: 2232	SITE: SUMMER RIDGE ESTATES
LO# 105067	

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 (ft³):	30231.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	2.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 50.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	152.0 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	-

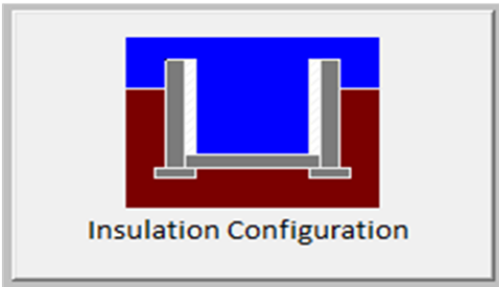
INDIVIDUAL BCIN: 19669

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):	15.2	
Floor Width (m):	7.9	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.3	
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):		1521

TYPE: 3201
LO# 105067

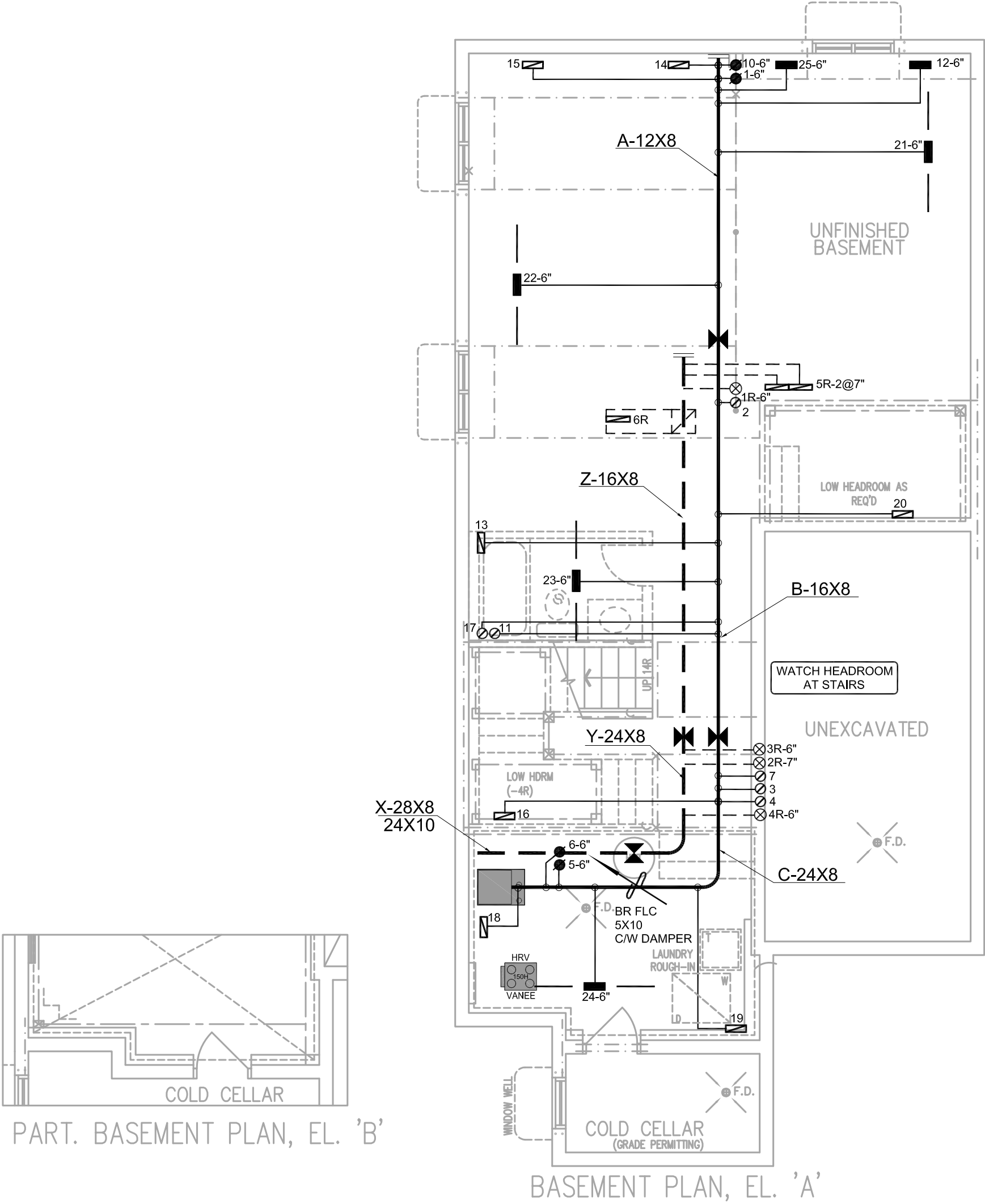
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

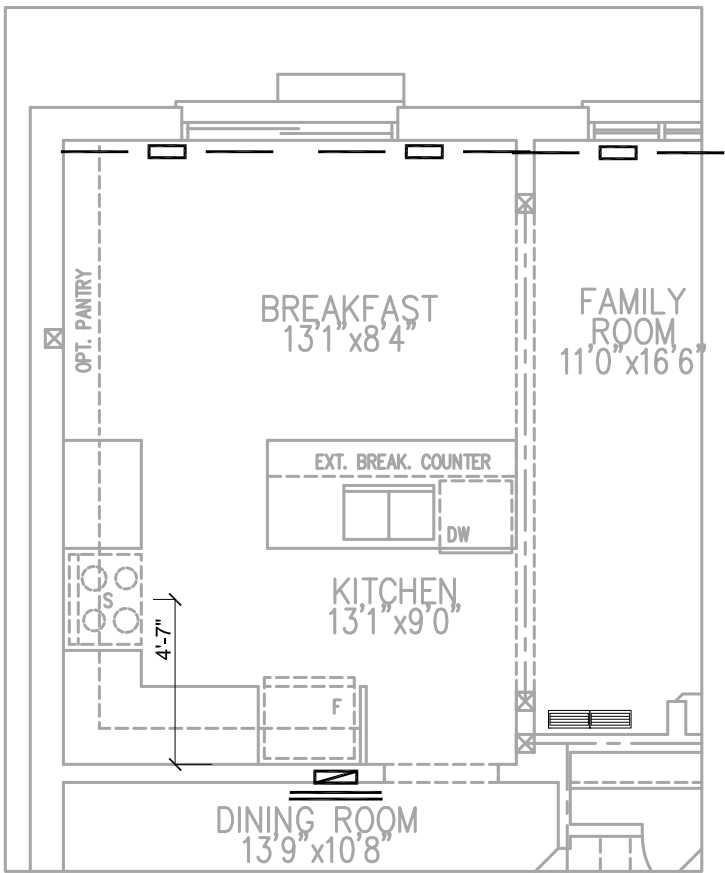
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	856.0			
Air Leakage/Ventilation				
Air Tightness Type:	Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	958.9 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):	0.282			
Cooling Air Leakage Rate (ACH/H):	0.088			

TYPE: 3201

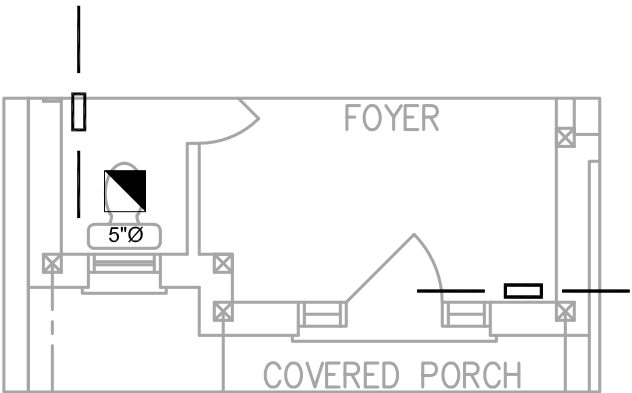
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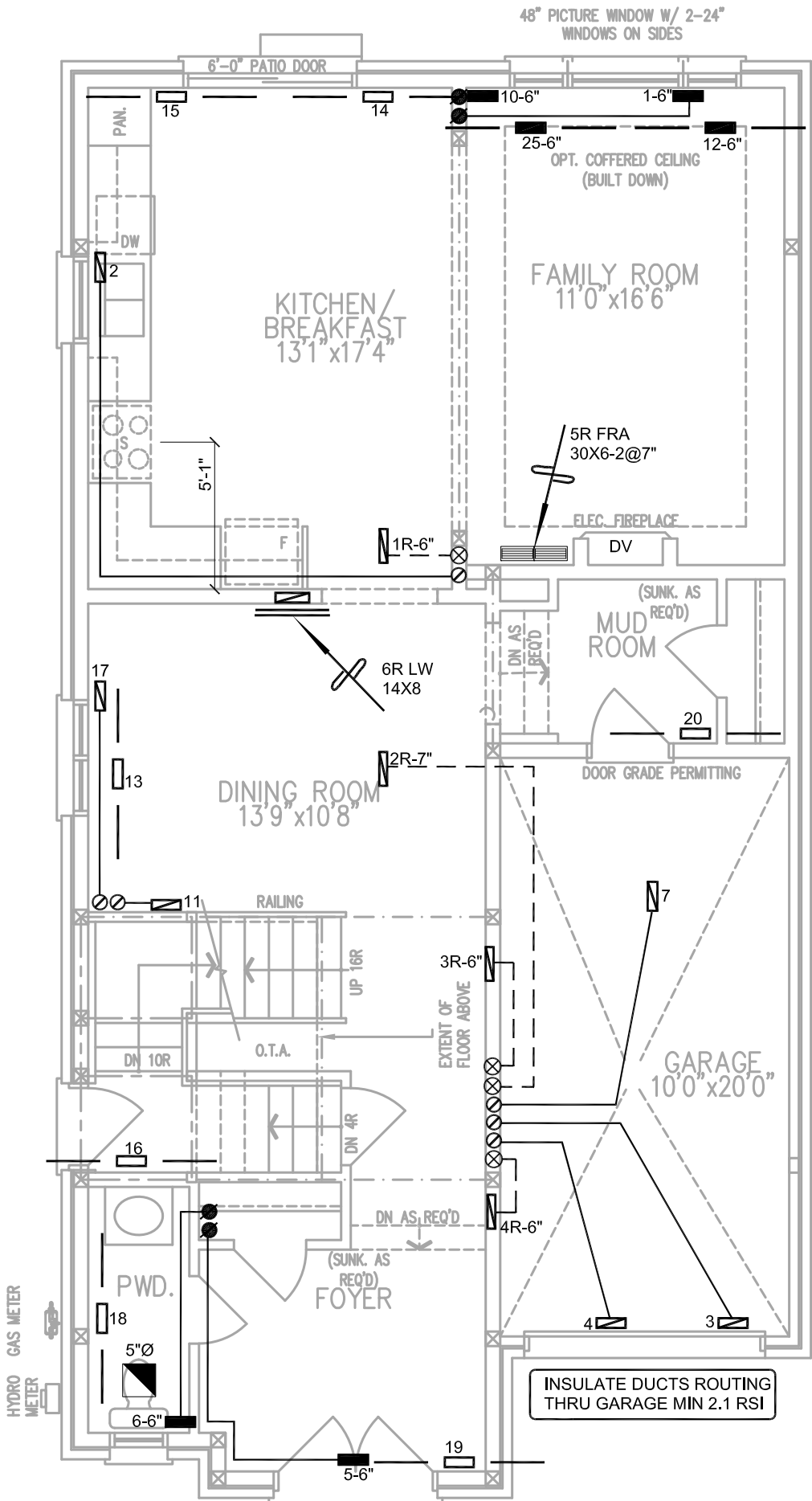
HVAC LEGEND								3.					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.					
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.					
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		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					
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.		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				HEAT LOSS 39172 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title			
ROYAL PINE HOMES						MAKE CARRIER		3RD FLOOR					BASEMENT HEATING LAYOUT
						MODEL 59SC6A060M17--16		2ND FLOOR		10	4	3	
						INPUT 60 MBTU/H		1ST FLOOR		9	2	2	
						OUTPUT 58 MBTU/H		BASEMENT		4	1	0	Date MAY/2024
Project Name		SUMMER RIDGE ESTATES BRAMPTON, ONTARIO				COOLING 2.5 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		Scale 3/16" = 1'-0"			
3201						FAN SPEED 925 cfm @ 0.6" w.c.		LO#		105067			



PART. OPT. GROUND
FLOOR W/ OPT. KITCHEN
LAYOUT

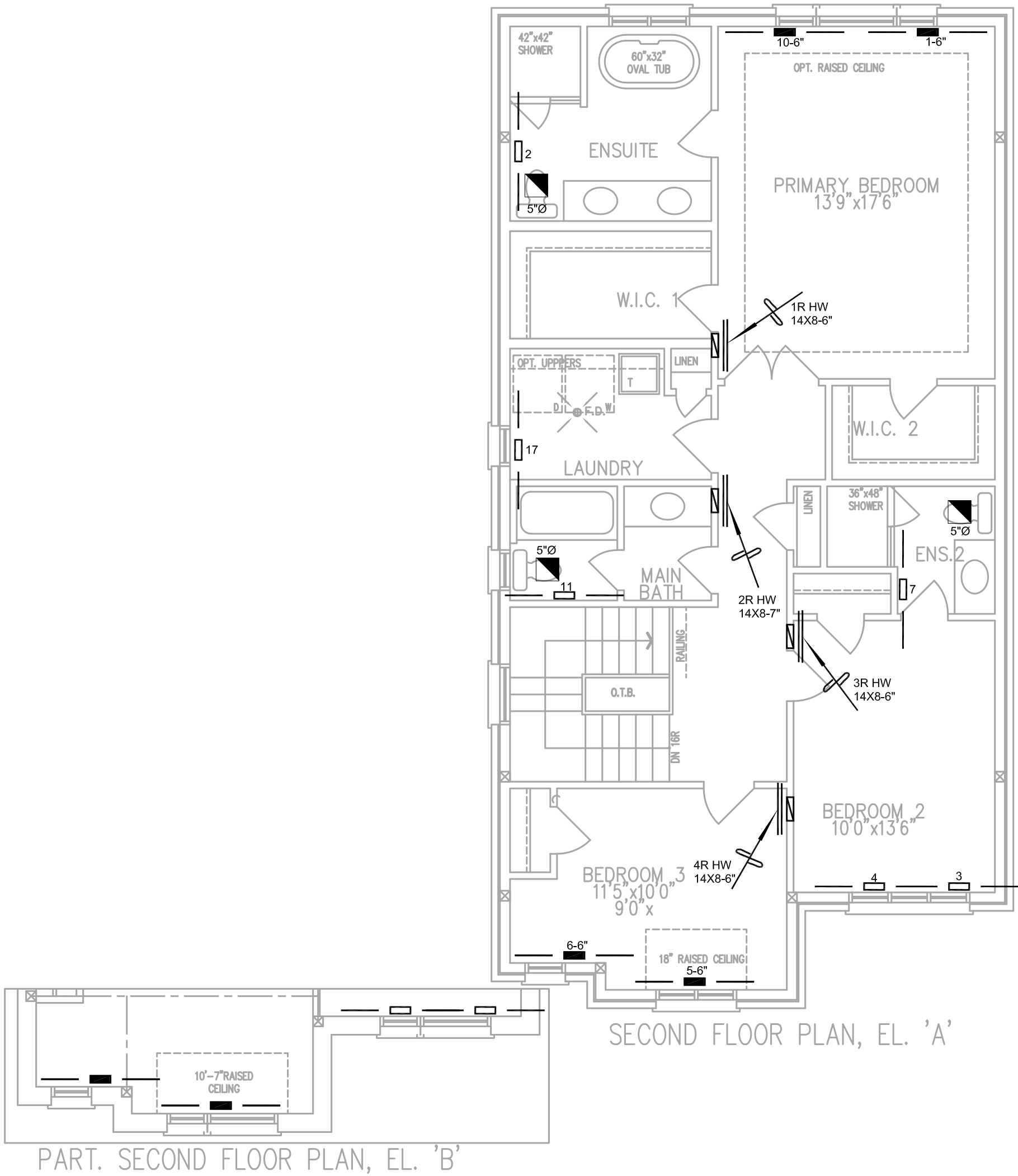


GROUND FLOOR PLAN, EL. 'B'



GROUND FLOOR PLAN, EL. 'A'

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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		
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ROYAL PINE HOMES									FIRST FLOOR HEATING LAYOUT	
Project Name									Date	
SUMMER RIDGE ESTATES BRAMPTON, ONTARIO				MAY/2024						
				Scale						
				3/16" = 1'-0"						
				BCIN# 19669						
3201		2232 sqft		LO#						
				105067						



HVAC LEGEND								3.		
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