

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 RICHMOND HILL	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: 2009 FIN BSMT Project: CENTREFIELD (WEST GORMLEY)	
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.			
April 21, 2021 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: CENTREFIELD (WEST GORMLEY)				FIN BSMT		DATE: Apr-21		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F		CSA-F280-12	
BUILDER: ROYAL PINE HOMES				TYPE: 2009		LO# 87533		0.236		78		SB-12 PERFORMANCE	
ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	BED-2		BED-3		BATH		B-BATH	
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
GLAZING	21.8	16.0	0	0	0	0	0	0	0	0	0	0	0
NORTH	21.8	41.6	0	0	0	0	0	0	0	0	0	0	0
EAST	21.8	24.9	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.8	41.6	0	0	0	0	0	0	0	0	0	0	0
WEST	21.8	41.6	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	35.8	101.2	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	98	412	68	45	189	31	62	261	43	114	479
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	382	502	225	78	103	46	177	233	104	200	263
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	177	462	76	21	55
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	1524					1565		1637		232		175	
SUB TOTAL HT GAIN				1456				1726					
LEVEL FACTOR / MULTIPLIER	0.20	0.28			0.20	0.28		0.20	0.28	0.20	0.28	0.50	1.08
AIR CHANGE HEAT LOSS	426				136			458		65		188	
AIR CHANGE HEAT GAIN	81				25			97		4		0	
DUCT LOSS	0	0	0	0	0	200		210		30		0	
DUCT GAIN	0	0	0	0	0	262		298		7		0	
HEAT GAIN PEOPLE	2	480	0	0	0	1		240		0		0	
HEAT GAIN APPLIANCES/LIGHTS	913				0	913		913		0		0	
TOTAL HT LOSS BTU/H	1950				624			2305		326		364	
TOTAL HT GAIN x 1.3 BTU/H	3809				619			4255		101		0	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	K/B/G	PWD	FOY		BAS	
GRS.WALL AREA	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
GLAZING	232								
NORTH	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0
SOUTH	8	174	199	0	0	25	545	1039	0
WEST	78	1689	3241	0	0	0	0	0	0
SKYL.T.	35.8	101.2	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	146	615	101	40	1034	170	7
NET EXPOSED BSMT WALL ABOVE GR	3.7	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	2.8	1.3	31	87	39	0	0	0	0
EXPOSED FLOOR	2.6	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	2576				993			1968	
SUB TOTAL HT GAIN									
LEVEL FACTOR / MULTIPLIER	0.30	0.36			0.30				
AIR CHANGE HEAT LOSS	938				362				
AIR CHANGE HEAT GAIN	200				9				
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	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	913				0	0	0	0	0
TOTAL HT LOSS BTU/H	3514				1355			6987	
TOTAL HT GAIN x 1.3 BTU/H	6101				224			1857	

TOTAL HEAT GAIN BTU/H: 22853 TONS: 1.90 LOSS DUE TO VENTILATION LOAD BTU/H: 1336 STRUCTURAL HEAT LOSS: 23319 TOTAL COMBINED HEAT LOSS BTU/H: 24655

Michael O'Rourke

SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMES

FIN BSMIT
TYPE: 2009

GFA: 1660 LO# 87533

DATE: Apr-21

HEATING CFM 820 COOLING CFM 820
TOTAL HEAT LOSS 23,319 TOTAL HEAT GAIN 22,633
AIR FLOW RATE CFM 35.16 AIR FLOW RATE CFM 36.23

****CARRIER**
59TNA6-060-14V
FAN SPEED 60
LOW 820
MEDLOW 0
MEDIUM 0
MEDIUM HIGH 0
HIGH 1520

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 820
CFM @ 6" E.S.P.
TEMPERATURE RISE 65 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	4
R/A	0	0	4	1	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	10	14	15	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BED-3	BATH	BED-2	MBR	K/B/G	K/B/G	PWD	FOY	FOY	BAS	B-BATH	BAS	BAS
RM LOSS MBH	0.98	0.62	1.10	1.15	1.15	1.15	0.33	1.10	0.98	1.76	1.76	1.35	1.85	1.85	2.33	0.36	2.33	2.33
CFM PER RUN HEAT	34	22	39	41	41	41	11	39	34	62	62	48	65	65	82	13	82	82
RM GAIN MBH	1.90	0.62	1.87	2.13	2.13	2.13	0.10	1.87	1.90	3.05	3.05	0.22	0.96	0.96	0.62	0.00	0.62	0.62
CFM PER RUN COOLING	69	22	68	77	77	77	4	68	69	111	111	8	35	35	23	0	23	23
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.17	0.17	0.17	0.16	0.17	0.16	0.16
ACTUAL DUCT LGH	33	26	52	53	53	50	30	47	39	23	19	22	36	39	31	11	24	33
EQUIVALENT LENGTH	110	170	150	190	190	180	140	130	140	170	150	160	110	110	160	140	180	120
TOTAL EFFECTIVE LENGTH	143	196	202	243	230	230	170	177	179	193	169	182	146	149	191	151	204	153
ADJUSTED PRESSURE	0.12	0.09	0.09	0.07	0.07	0.07	0.1	0.1	0.1	0.08	0.09	0.09	0.12	0.12	0.08	0.11	0.08	0.11
ROUND DUCT SIZE	5	4	5	6	6	6	4	5	5	6	6	5	5	5	6	4	6	6
HEATING VELOCITY (ft/min)	250	252	286	209	209	209	126	286	250	316	316	352	477	477	418	149	418	418
COOLING VELOCITY (ft/min)	507	252	499	393	393	393	46	499	507	566	566	59	257	257	117	0	117	117
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10
TRUNK	C	C	B	A	A	A	B	B	C	C	C	B	A	A	C	B	C	A

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														

SUPPLY AIR TRUNK SIZE	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	294	0.07	9.2	10	8	529	0.00	0	0	8
TRUNK B	444	0.07	10.7	14	8	571	0.00	0	0	8
TRUNK C	378	0.08	9.7	12	8	567	0.00	0	0	8
TRUNK D	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8

RETURN AIR #	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK H	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK I	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK J	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK K	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK L	0	0.00	0	0	8	0	0.05	0	0	8

TYPE: 2009
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87533
FIN BSMT

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	2 @ 10.6 cfm	21.2 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	2 @ 10.6 cfm	21.2 cfm
Table 9.32.3.A.	TOTAL	148.4 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		63.6 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	84.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANE 65H	Location: BSMT		
63.6 cfm	☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T \cdot F$	FACTOR	% LOSS
63.6 CFM	X 78 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
B-BATH	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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:	April-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																							
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																							
LO#: 87533	Model: 2009	Builder: ROYAL PINE HOMES	Date: 4/21/2021																																																																				
Volume Calculation		Air Change & Delta T Data																																																																					
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5.2.3.1 Heat Loss due to Air Leakage																																																																							
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																																							
0.236	x	182.17	x	43 °C	x	1.2	=	2232 W																																																															
								=	7617 Btu/h																																																														
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																							
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																							
64 CFM	x	78 °F	x	1.08	x	0.25	=	1336 Btu/h																																																															
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																							
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl})\}$																																																																							
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairev = 0																																																																							

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2009	FIN BSMT	BUILDER: ROYAL PINE HOMES
SFQT: 1660	LO# 87533	SITE: CENTREFIELD (WEST GORMLEY)

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	23159.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.90	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 52.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	66.0 ft

2012 OBC - COMPLIANCE PACKAGE

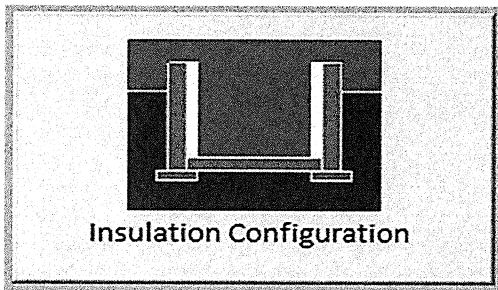
Component	Compliance Package SB-12 PERFORMANCE	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	18.50
Basement Walls Minimum 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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	TE=94%	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (m):	20.1	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
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):		628

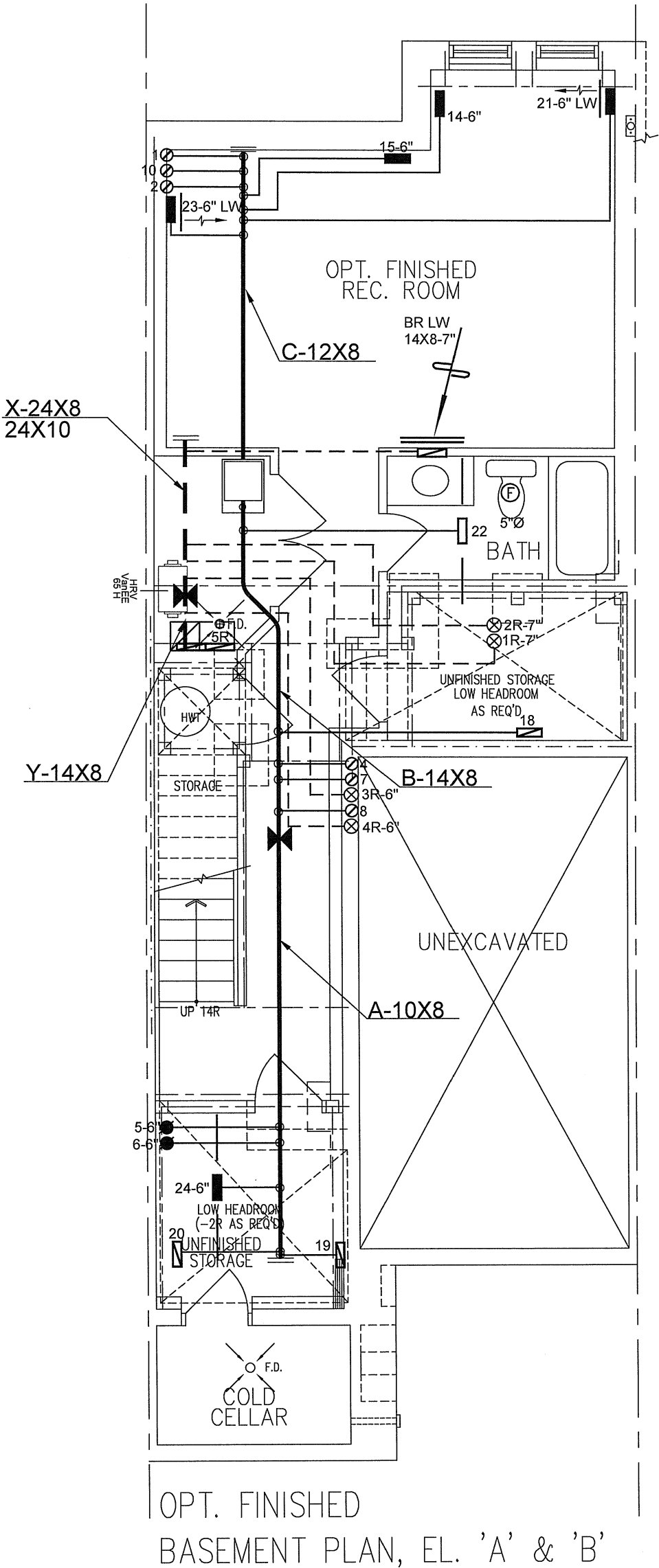
TYPE: 2009
LO# 87533

FIN BSMT

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Richmond Hill			
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):	6.74			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	655.8			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	612.2 cm ²		
	2.50	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):	0.236			
Cooling Air Leakage Rate (ACH/H):	0.072			



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.

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

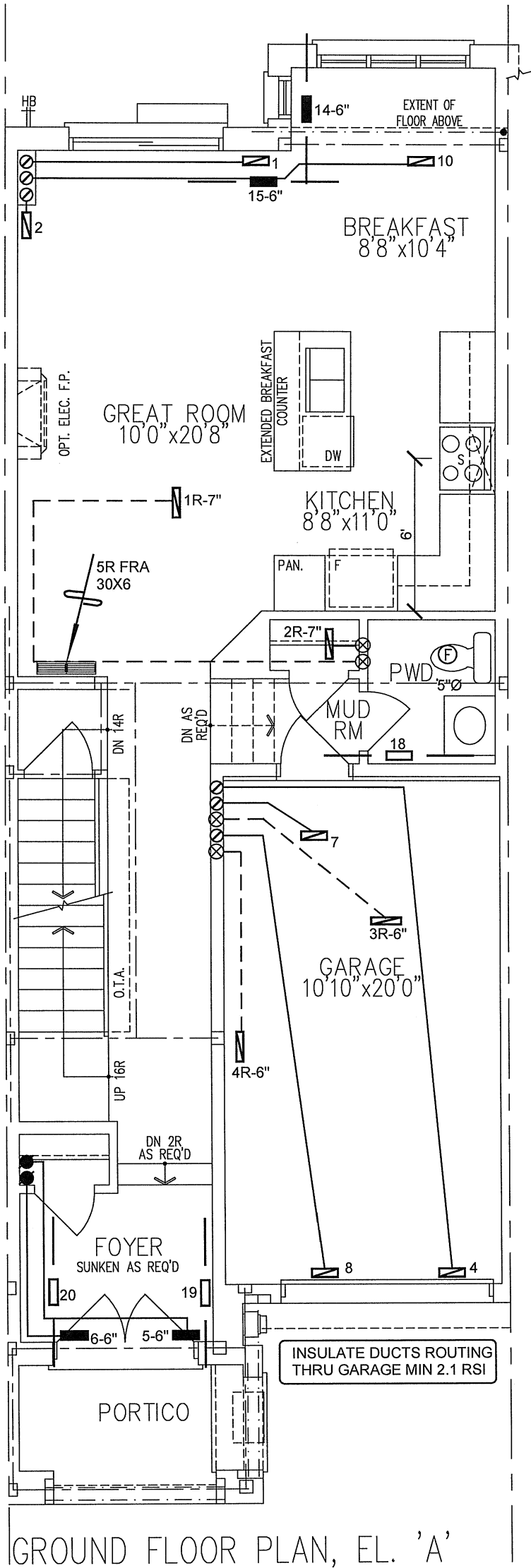
CSA-F280-12

SB-12 PERFORMANCE

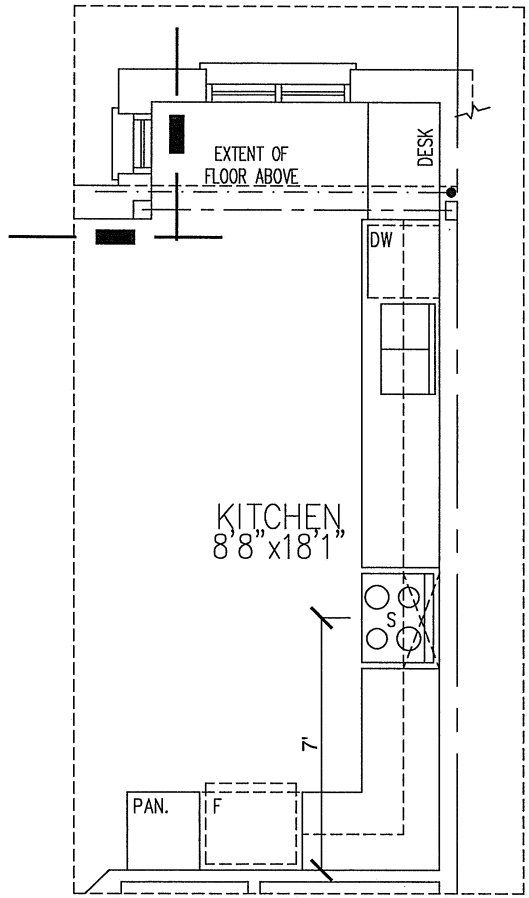
HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2. REVISED AS PER ARCHITECTURALS APR/2021
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1. REVISED TO PERFORMANCE SEPT/2020
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date
REVISIONS								

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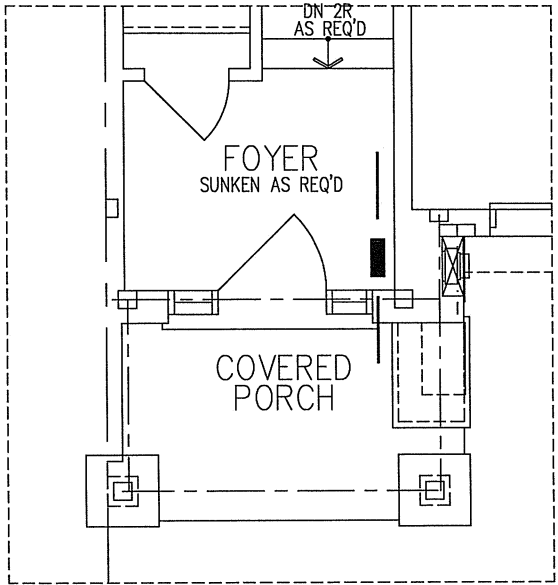
Client	HVACDESIGNSLTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply 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 24655 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title						
ROYAL PINE HOMES		MAKE CARRIER	MODEL 59TN6A-060-14V	INPUT 60 MBTU/H	OUTPUT 58 MBTU/H	COOLING 2.0 TONS	FAN SPEED 820 cfm @ 0.6" w.c.	3RD FLOOR	2ND FLOOR	1ST FLOOR	BASEMENT	BASEMENT HEATING LAYOUT	
Project Name		3RD FLOOR		2ND FLOOR	1ST FLOOR	BASEMENT	Date						
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO		8		4	2	5	1	2	4	1	1	SEPT/2020	
FIN BSMT 2009		1660 sqft		Scale		3/16" = 1'-0"		BCIN# 19669		LO#		87533	



GROUND FLOOR PLAN, EL. 'A'



PART. GROUND FLOOR PLAN - OPT. KITCHEN LAYOUT



GROUND FLOOR PLAN, EL. 'B'

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, BCIN# 19669 HVAC DESIGNS LTD.

CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	
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Client
ROYAL PINE HOMES

Project Name
CENTREFIELD (WEST GORMLEY)
RICHMOND HILL, ONTARIO

FIN BSMT
2009

1660 sqft

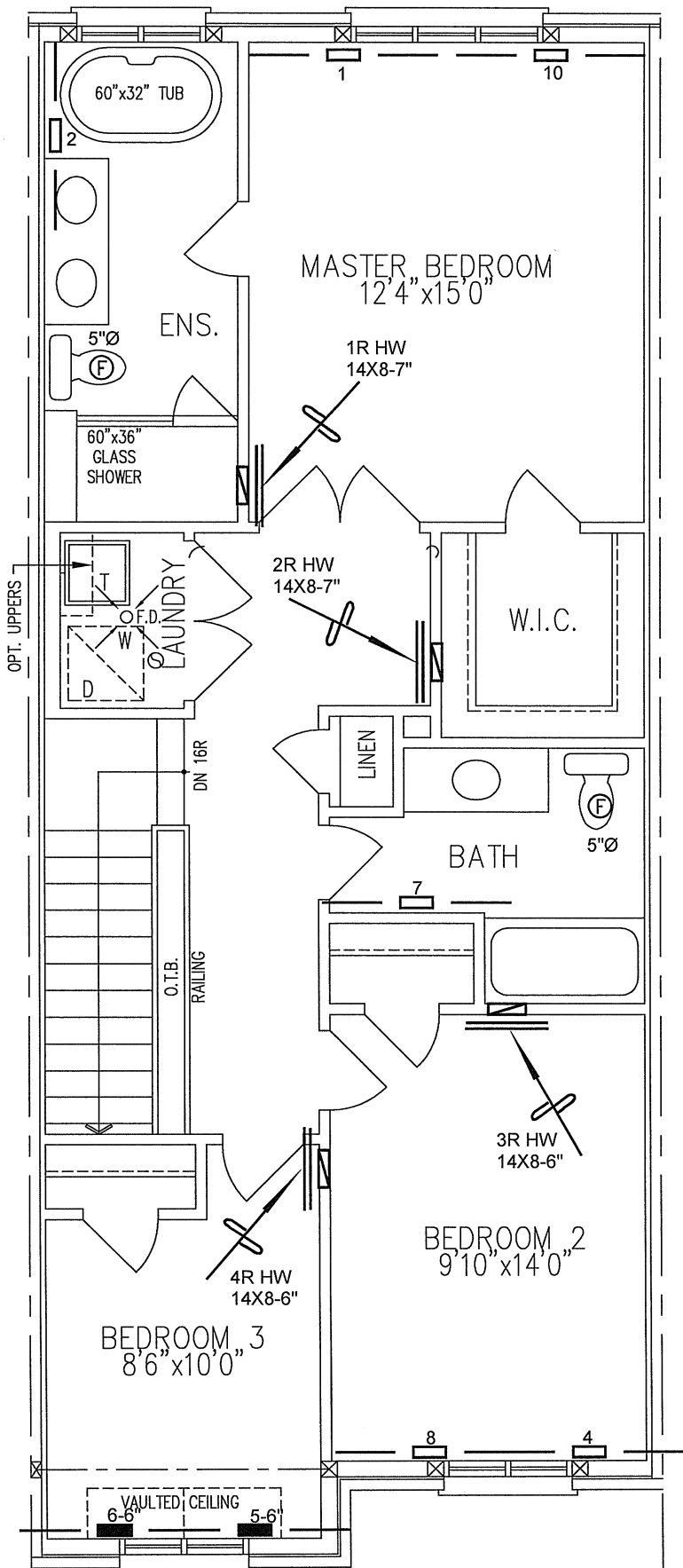
HVACDESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdesigns.ca

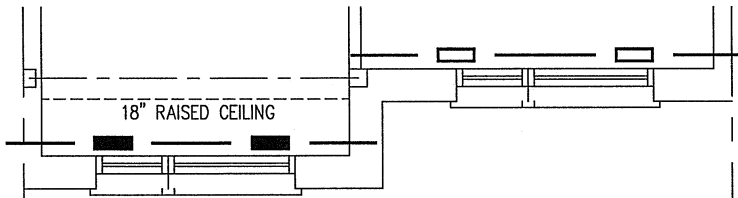
Specializing in Residential Mechanical Design Services

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	
FIRST FLOOR HEATING LAYOUT	
Date	SEPT/2020
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	87533



SECOND FLOOR PLAN, EL. 'A'



SECOND FLOOR PLAN, EL. 'B'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS
— □ —	SUPPLY AIR GRILLE	■	6" SUPPLY AIR BOOT ABOVE	▨	14"x8" RETURN AIR GRILLE	▩	RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE
— ■ —	SUPPLY AIR GRILLE 6" BOOT	⊙	SUPPLY AIR STACK FROM 2nd FLOOR	▨	30"x8" RETURN AIR GRILLE	▩	RETURN AIR STACK 2nd FLOOR	No.	Description
▨	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▨	FRA- FLOOR RETURN AIR GRILLE	⌵	REDUCER		Date
							REVISIONS		

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Client ROYAL PINE HOMES		HVACDESIGNS LTD. 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	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
FIN BSMT 2009			Scale 3/16" = 1'-0"	
1660 sqft			BCIN# 19669	
			LO#	87533