

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 Project: CENTREFIELD (WEST GORMLEY)	
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.			
April 21, 2021		 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.

SITE NAME: CENTREFIELD (WEST GORMLEY) DATE: Apr-21 WINTER NATURAL AIR CHANGE RATE 0.236 HEAT LOSS AT °F. 78 CSA-F280-12
BUILDER: ROYAL PINE HOMES LO# 87532 SUMMER NATURAL AIR CHANGE RATE 0.072 HEAT GAIN AT °F. 13 SB-12 PERFORMANCE

ROOM USE	MBR	ENS	TYPE: 2009	GFA: 1660	DATE: Apr-21	WINTER NATURAL AIR CHANGE RATE	HEAT LOSS AT °F.	CSA-F280-12
EXP. WALL CLG. HT.	14	6			LO# 87532	0.236	78	SB-12 PERFORMANCE
FACTORS								
GRS.WALL AREA	126	54						
GLAZING	LOSS	GAIN						
NORTH	0	0						
EAST	0	0						
SOUTH	0	0						
WEST	28	0						
SKYL.T.	610	1163						
DOORS	0	0						
NET EXPOSED WALL	4.2	98						
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6						
EXPOSED CLG	1.3	0.6						
NO ATTIC EXPOSED CLG	2.8	1.3						
EXPOSED FLOOR	2.6	0.4						
BASEMENT/CRAWL HEAT LOSS	0	0						
SLAB ON GRADE HEAT LOSS	0	0						
SUBTOTAL HT LOSS	1524	488						
SUB TOTAL HT GAIN	1456	451						
LEVEL FACTOR / MULTIPLIER	0.20	0.28						
AIR CHANGE HEAT LOSS	426	136						
AIR CHANGE HEAT GAIN	0	0						
DUCT GAIN	0	0						
DUCT GAIN PEOPLE	2	480						
HEAT GAIN APPLIANCES/LIGHTS	889	0						
TOTAL HT LOSS BTU/H	1950	624						
TOTAL HT GAIN x 1.3 BTU/H	3778	619						

ROOM USE	K/B/G	PWD	FOY	BAS
EXP. WALL CLG. HT.	23	12	30	66
FACTORS				
GRS.WALL AREA	232	133	333	462
GLAZING	LOSS	GAIN	LOSS	GAIN
NORTH	0	0	0	0
EAST	0	0	0	0
SOUTH	8	0	25	0
WEST	174	0	545	0
SKYL.T.	1699	0	1039	0
DOORS	0	0	0	0
NET EXPOSED WALL	146	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	615	0	0	0
EXPOSED CLG	101	0	0	0
NO ATTIC EXPOSED CLG	31	0	0	0
EXPOSED FLOOR	87	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0
SUBTOTAL HT LOSS	2576	993	2706	2143
SUB TOTAL HT GAIN	3580	163	1394	3542
LEVEL FACTOR / MULTIPLIER	0.30	0.36	0.30	0.50
AIR CHANGE HEAT LOSS	938	362	985	108
AIR CHANGE HEAT GAIN	0	0	0	3809
DUCT LOSS	0	0	0	0
DUCT GAIN	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	889	0	0	0
TOTAL HT LOSS BTU/H	3514	1355	3691	7350
TOTAL HT GAIN x 1.3 BTU/H	6070	224	1914	1836

TOTAL HEAT GAIN BTU/H: 22891 TONS: 1.89 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

TYPE: 2009

DATE: Apr-21

GFA: 1660 LO# 87532

HEATING CFM 820 COOLING CFM 820
TOTAL HEAT LOSS 23,319 TOTAL HEAT GAIN 22,471
AIR FLOW RATE CFM 35.16 AIR FLOW RATE CFM 36.49

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	3
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	23	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BED-3	BED-3	BATH	BED-2	MBR	K/B/G	K/B/G	PWD	FOY	FOY	BAS	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	2.45	2.45	2.45
CFM PER RUN HEAT	34	22	39	41	41	41	11	39	34	62	62	48	65	65	86	86	86
RM GAIN MBH	1.89	0.62	1.85	2.11	2.11	2.11	0.10	1.85	1.89	3.04	3.04	0.22	0.96	0.96	0.61	0.61	0.61
CFM PER RUN COOLING	69	23	68	77	77	77	4	68	69	111	111	8	35	35	22	22	22
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	0.16	0.16
ACTUAL DUCT LGH	33	26	52	53	50	50	30	47	39	23	19	22	36	38	18	14	33
EQUIVALENT LENGTH	110	170	150	190	180	180	140	130	140	170	150	160	110	110	160	180	120
TOTAL EFFECTIVE LENGTH	143	196	202	243	230	230	170	177	179	193	169	182	146	148	178	194	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	0.09	0.08	0.11
ROUND DUCT SIZE	5	4	5	6	6	6	4	5	5	6	6	5	5	5	6	6	6
HEATING VELOCITY (f/min)	250	252	286	209	209	209	126	286	250	316	316	352	477	477	438	438	438
COOLING VELOCITY (f/min)	507	264	499	393	393	393	46	499	507	566	566	59	257	257	112	112	112
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	C	C	A	A	A	A	B	B	C	C	C	B	A	A	C	C	A

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

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 (f/min)

COOLING VELOCITY (f/min)

OUTLET GRILL SIZE

TRUNK

SUPPLY AIR TRUNK SIZE

TRUNK

CFM

RECT

DUCT

STATIC

PRESS.

ROUND

DUCT

VELOCITY

(f/min)

TRUNK

G

TRUNK

H

TRUNK

I

TRUNK

J

TRUNK

K

TRUNK

L

TRUNK

M

TRUNK

N

TRUNK

O

TRUNK

RETURN AIR TRUNK SIZE

TRUNK

CFM

RECT

DUCT

STATIC

PRESS.

ROUND

DUCT

VELOCITY

(f/min)

TRUNK

O

TRUNK

P

TRUNK

Q

TRUNK

R

TRUNK

S

TRUNK

T

TRUNK

U

TRUNK

V

TRUNK

W

TRUNK

RETURN AIR TRUNK SIZE

TRUNK

CFM

RECT

DUCT

STATIC

PRESS.

ROUND

DUCT

VELOCITY

(f/min)

TRUNK

O

TRUNK

P

TRUNK

Q

TRUNK

R

TRUNK

S

TRUNK

T

TRUNK

U

TRUNK

V

TRUNK

W

TRUNK

RETURN AIR

AIR VOLUME

PLENUM PRESSURE

ACTUAL DUCT LGH

EQUIVALENT LENGTH

TOTAL EFFECTIVE LENGTH

ADJUSTED PRESSURE

ROUND DUCT SIZE

INLET GRILL SIZE

INLET GRILL SIZE

VELOCITY

(f/min)

TRUNK

X

TRUNK

Y

TRUNK

Z

DROP

TRUNK

X

TRUNK

Y

TRUNK

Z

DROP

TRUNK

X

TRUNK

Y

TYPE: 2009
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87532

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>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>137.8</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>137.8</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>74.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>63.6</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION	
CFM	ΔT °F
63.6 CFM	X 78 F
FACTOR	% LOSS
1.08	X 0.25

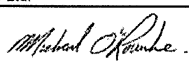
SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5
B-BATH	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % 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:	
HRAI #	001820
Date:	April-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																		
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																		
LO#: 87532	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																																																															
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		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)																																																																		
$HL_{airrr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																		
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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:** 2009**BUILDER:** ROYAL PINE HOMES**SFQT:** 1660**LO#** 87532**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 (ft ³):	23159.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.85	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%	-

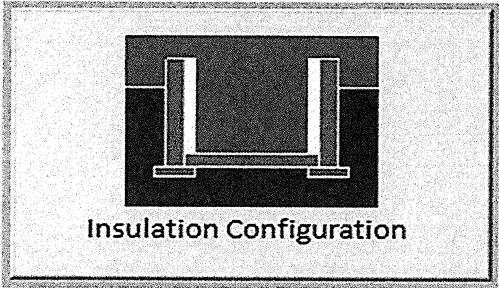
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

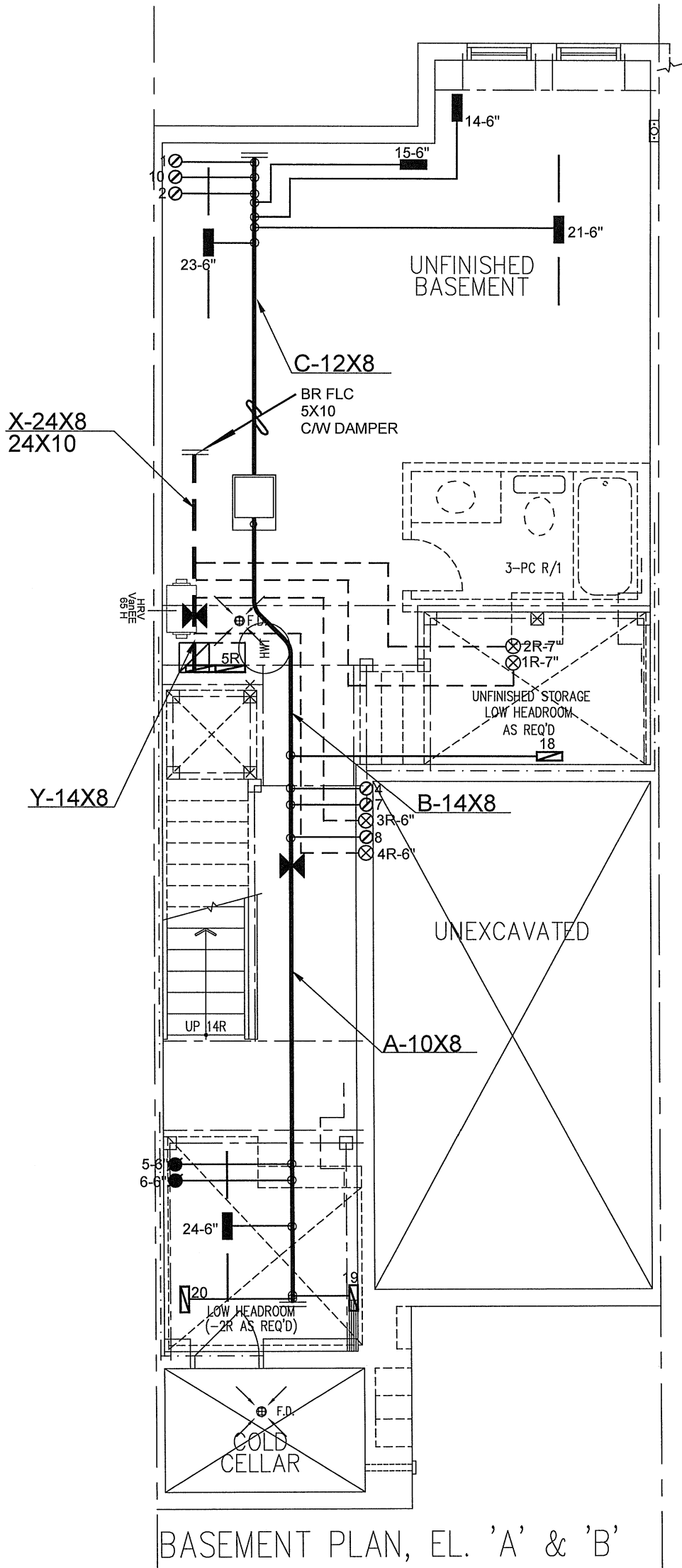
Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (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# 87532

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			



BASEMENT PLAN, EL. 'A' & '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
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

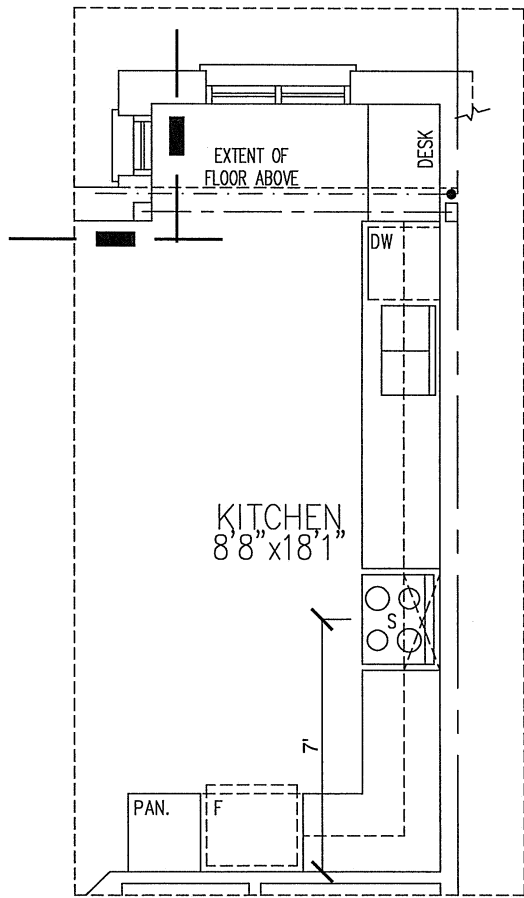
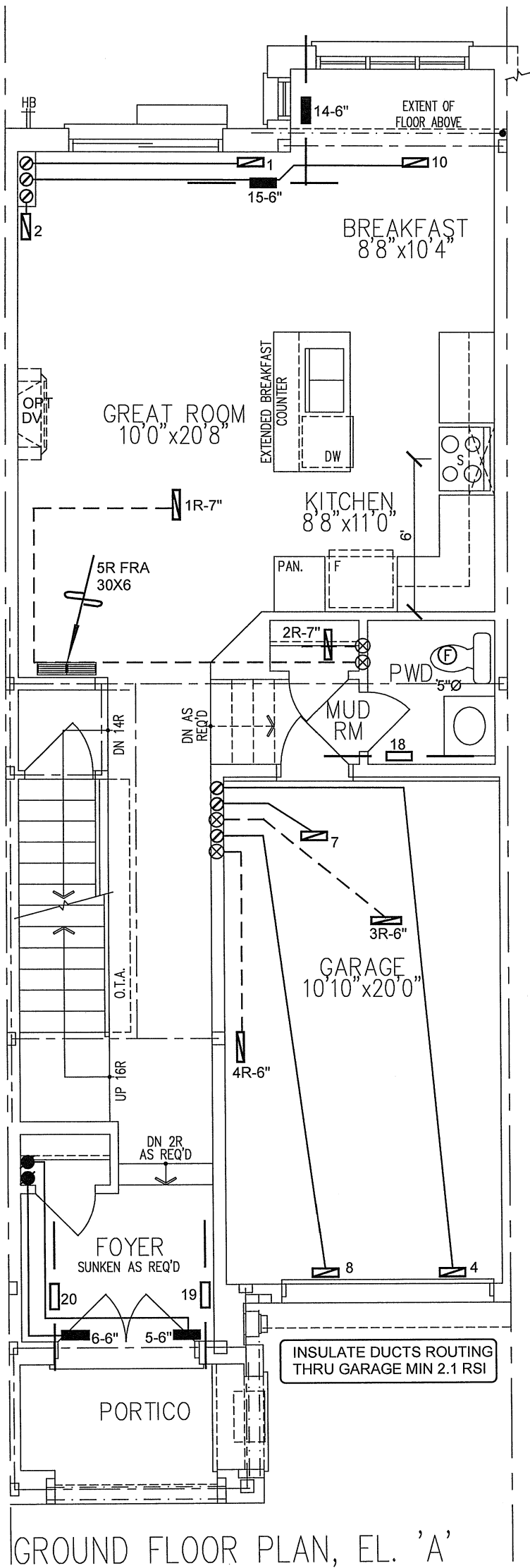
CSA-F280-12

SB-12 PERFORMANCE

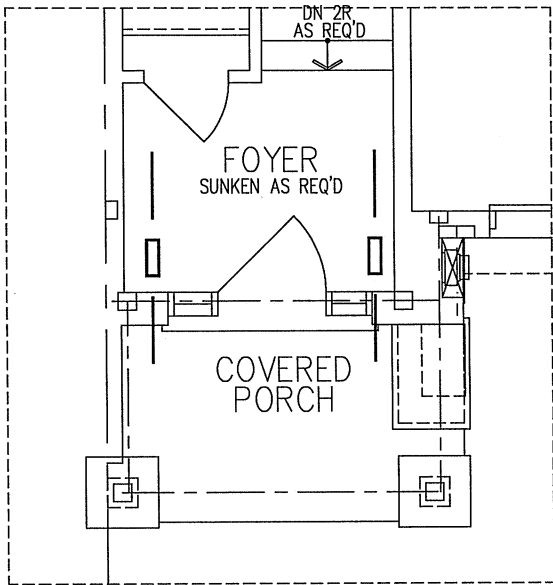
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	SUPPLY AIR GRILLE 6" BOOT		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		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.	HEAT LOSS 24655 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT			
ROYAL PINE HOMES			MAKE		3RD FLOOR							
			CARRIER		2ND FLOOR		8 4 2					
			MODEL		1ST FLOOR		5 1 2					
Project Name			59TN6A-060-14V		INPUT		60 MBTU/H		BASEMENT		3 1 0	
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			OUTPUT		58 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					
			COOLING		2.0 TONS							
			FAN SPEED		820 cfm @ 0.6" w.c.							
			Scale		3/16" = 1'-0"							
		BCIN# 19669										
2009		1660 sqft		LO#		87532						



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

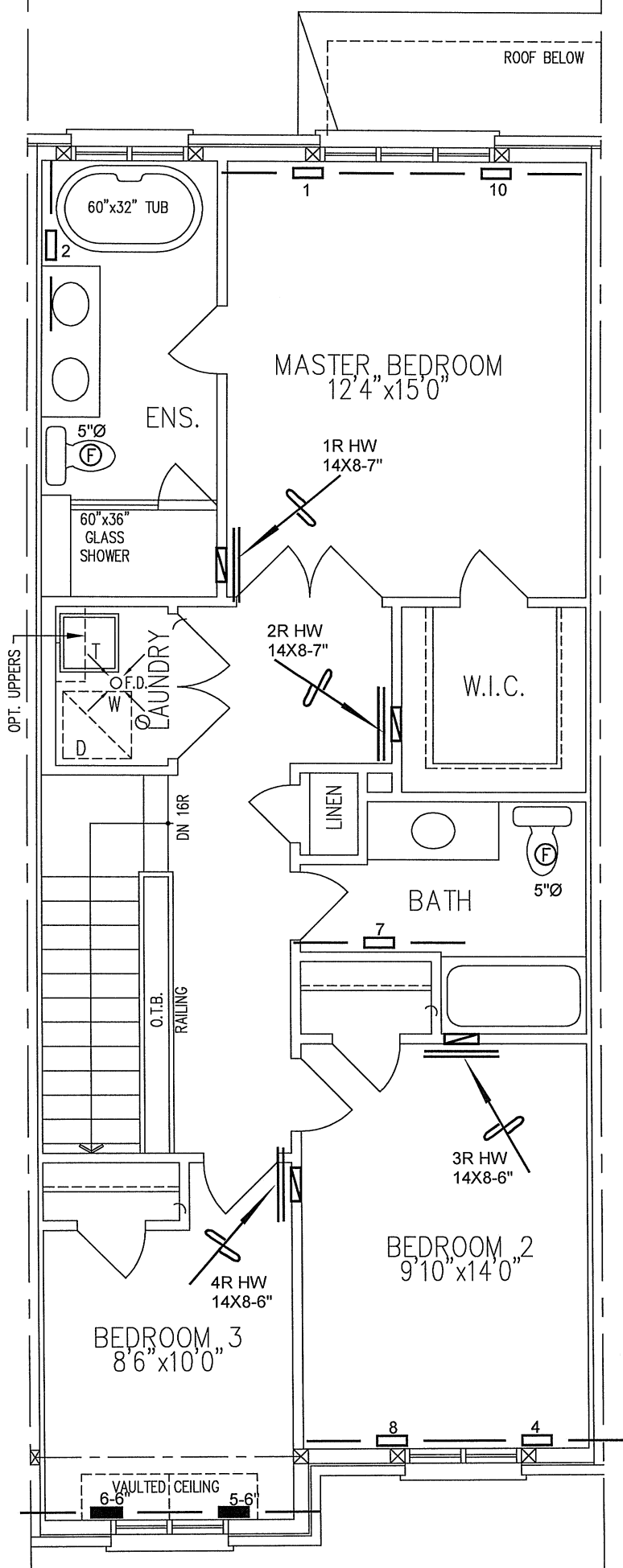
CSA-F280-12

SB-12 PERFORMANCE

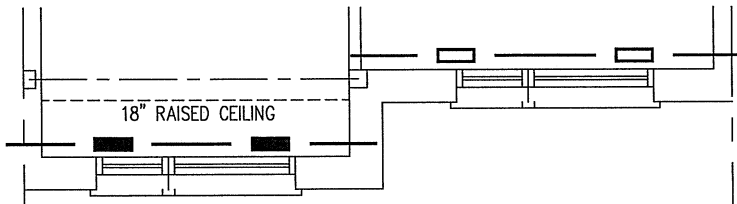
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	SUPPLY AIR GRILLE 6" BOOT		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 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 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	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
2009			Scale 3/16" = 1'-0"	
1660 sqft			BCIN# 19669	
			LO#	87532



SECOND FLOOR PLAN, EL. 'A'



SECOND 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
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	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	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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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	SEPT/2020
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
2009	1660 sqft	LO#	87532	