

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	Postal code	Plan number/ other description	
RICHMOND HILL			
B. Individual who reviews and takes responsibility for design activities			
Name		Firm	
MICHAEL O'ROURKE		HVAC DESIGNS LTD.	
Street address		Unit no.	Lot/con.
375 FINLEY AVE		202	N/A
Municipality	Postal code	Province	E-mail
AJAX	L1S 2E2	ONTARIO	info@hvacdsgns.ca
Telephone number	Fax number	Cell number	
(905) 619-2300	(905) 619-2375	()	
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		Model: 38-8	
HEAT LOSS / GAIN CALCULATIONS		OPT MAIN & OPT 2ND	
DUCT SIZING		Project: CENTREFIELD (WEST GORMLEY)	
RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY			
RESIDENTIAL SYSTEM DESIGN per CSA-F280-12			
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 19, 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) OPT MAIN & OPT 2ND DATE: Apr-21 WINTER NATURAL AIR CHANGE RATE 0.227 HEAT LOSS AT °F. 78 CSA-F280-12
BUILDER: ROYAL PINE HOMES TYPE: 38-8 LO# 90456 SUMMER NATURAL AIR CHANGE RATE 0.071 HEAT GAIN AT °F. 13 SB-12 PERFORMANCE

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH		
36	21	189	0	34	29	12	6		
9	9		9	9	9	9	9		
FACTORS									
GRS.WALL AREA	324	189	0	306	261	108	54		
GLAZING	0	8	0	0	0	17	7		
NORTH	21.8	174	128	0	0	370	152		
EAST	21.8	174	128	0	0	370	152		
SOUTH	21.8	174	128	0	0	370	152		
WEST	21.8	174	128	0	0	370	152		
SKYL.T.	35.8	101.2	0	0	0	0	0		
DOORS	25.8	4.3	0	0	0	0	0		
NET EXPOSED WALL	4.2	0.7	287	1207	199	164	590		
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0		
EXPOSED CLG	1.3	0.6	241	317	142	123	162		
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0		
EXPOSED FLOOR	2.6	0.4	0	0	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	2330	1396	99	2234	2711	970	684		
SUB TOTAL HT GAIN	0.20	0.19	0.20	0.19	0.20	0.19	0.20		
LEVEL FACTOR / MULTIPLIER	433	260	18	416	504	180	127		
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0		
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0		
DUCT LOSS	0	0	0	0	0	0	0		
DUCT GAIN	0	0	0	0	0	0	0		
HEAT GAIN PEOPLE	2	480	0	1	240	1	25		
HEAT GAIN APPLANCES/LIGHTS	652	0	0	652	652	652	0		
TOTAL HT LOSS BTU/H	2763	1656	117	2649	3537	1150	892		
TOTAL HT GAIN x 1.3 BTU/H	3802	1403	51	3713	4709	1754	361		

ROOM USE EXP. WALL CLG. HT.	FORM	FAM	KTBR	LAUN	BATH-2	FOY	MUD		
31	33	333	404	172	108	300	89		
10	10	10	10	10	9	11	11		
FACTORS									
GRS.WALL AREA	313	333	404	172	108	300	89		
GLAZING	0	0	0	0	0	0	0		
NORTH	21.8	16.0	0	0	0	0	0		
EAST	21.8	16.0	0	0	0	0	0		
SOUTH	21.8	16.0	0	0	0	0	0		
WEST	21.8	16.0	0	0	0	0	0		
SKYL.T.	35.8	101.2	0	0	0	0	0		
DOORS	25.8	4.3	0	0	0	0	0		
NET EXPOSED WALL	4.2	0.7	282	1186	195	299	1259		
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0		
EXPOSED CLG	1.3	0.6	0	0	0	0	0		
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0		
EXPOSED FLOOR	2.6	0.4	0	0	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	1862	2012	2033	755	874	2548	806		
SUB TOTAL HT GAIN	0.30	0.31	0.30	0.30	0.20	0.31	0.30		
LEVEL FACTOR / MULTIPLIER	586	633	640	238	163	802	254		
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0		
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0		
DUCT LOSS	0	0	0	0	0	0	0		
DUCT GAIN	0	0	0	0	0	0	0		
HEAT GAIN PEOPLE	0	0	0	0	0	0	0		
HEAT GAIN APPLANCES/LIGHTS	652	552	652	652	652	652	0		
TOTAL HT LOSS BTU/H	2448	2646	2673	993	1037	3350	1060		
TOTAL HT GAIN x 1.3 BTU/H	2178	3085	2140	1032	743	1830	182		

TOTAL HEAT GAIN BTU/H: 28178 TONS: 2.43 LOSS DUE TO VENTILATION LOAD BTU/H: 1670 STRUCTURAL HEAT LOSS: 40064 TOTAL COMBINED HEAT LOSS BTU/H: 41734

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

HEATING CFM	970	COOLING CFM	970
TOTAL HEAT LOSS	40,064	TOTAL HEAT GAIN	28,903
IR FLOW RATE CFM	24.21	AIR FLOW RATE CFM	33.56

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	7	4
R/A	0	0	5	2	1

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

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

AIR SYSTEMS 3-2-2015 12:00 PM - 12:																								
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

ROOM NAME	ROOM #
RM LOSS MBH.	
CFM PER PER HEAT	
RM GAIN MBH.	
CFM PER PER 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	
TRIPING	

SUPPLY AIR TRUNK SIZE						RETURN AIR TRUNK SIZE											
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY							
					(ft/min)					(ft/min)							
TRUNK A	353	0.09	9.2	10	X	8	635	0	0.00	0	X	8	0	0.05	0	X	8
TRUNK B	308	0.06	9.7	12	X	8	462	0	0.00	0	X	8	0	0.05	0	X	8
TRUNK C	495	0.06	11.6	16	X	8	557	0	0.00	0	X	8	0	0.05	0	X	8
TRUNK D	616	0.06	12.6	20	X	8	554	0	0.00	0	X	8	0	0.05	0	X	8
TRUNK E	969	0.06	14.9	26	X	8	671	0	0.00	0	X	8	0	0.05	0	X	8
TRUNK F	0	0.00	0	0	X	8	0	0	0.00	0	X	8	0	0.05	0	X	8

RETURN AIR #	1	2	3	4	5	6	7	BR
AIR VOLUME	85	75	75	100	75	320	85	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LQH.	40	70	61	39	58	20	42	1
EQUIVALENT LENGTH	225	250	245	155	225	175	225	0
TOTAL EFFECTIVE LH	265	320	306	194	283	195	287	1
ADJUSTED PRESSURE	0.06	0.05	0.05	0.08	0.05	0.08	0.06	14.80
ROUND DUCT SIZE	6	6	6	5.9	6	9.2	6	0
INLET GRILL SIZE	8	8	8	8	8	8	8	0
INLET GRILL SIZE	14	14	14	14	14	30	14	0

TYPE: 38-8
SITE NAME: CENTREFIELD (WEST GORMLEY)
LO # 90456
OPT MAIN & OPT 2ND

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>3</u> @ 10.6 cfm	<u>31.8</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>169.6</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>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>169.6</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>90.1</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 65H		
Location:	BSMT		
<u>79.5</u> cfm	☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 78 F	X 1.08	X 0.25

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

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#: 90456	Model: 38-8	Builder: ROYAL PINE HOMES	Date: 4/19/2021																																																																
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6.2.6 Sensible Gain due to Air Leakage																																																																			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																			
0.227	x	262.11	x	7 °C	x	1.2	=	158 W																																																											
								=	539 Btu/h																																																										
5.2.3.1 Heat Loss due to Air Leakage																																																																			
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																																			
0.227	x	262.11	x	43 °C	x	1.2	=	3080 W																																																											
								=	10508 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																			
80 CFM	x	78 °F	x	1.08	x	0.25	=	1670 Btu/h																																																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$																																																																			
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairv = 0																																																																			

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 38-8	OPT MAIN & OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 2389	LO# 90456	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:	DETACHED	# 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):	33322.5	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.70	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 48.0 ft	WIDTH: 31.0 ft	EXPOSED PERIMETER:	158.0 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%	-

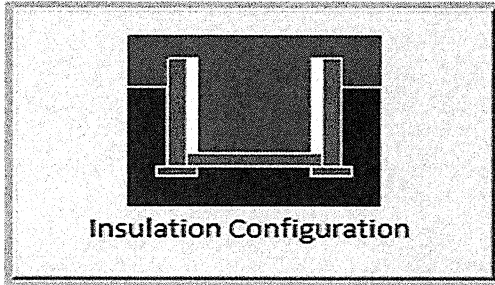
INDIVIDUAL BCIN: 19669

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):	14.6	 Insulation Configuration
Floor Width (m):	9.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.1	
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):		1558

TYPE: 38-8
LO# 90456

OPT MAIN & OPT 2ND

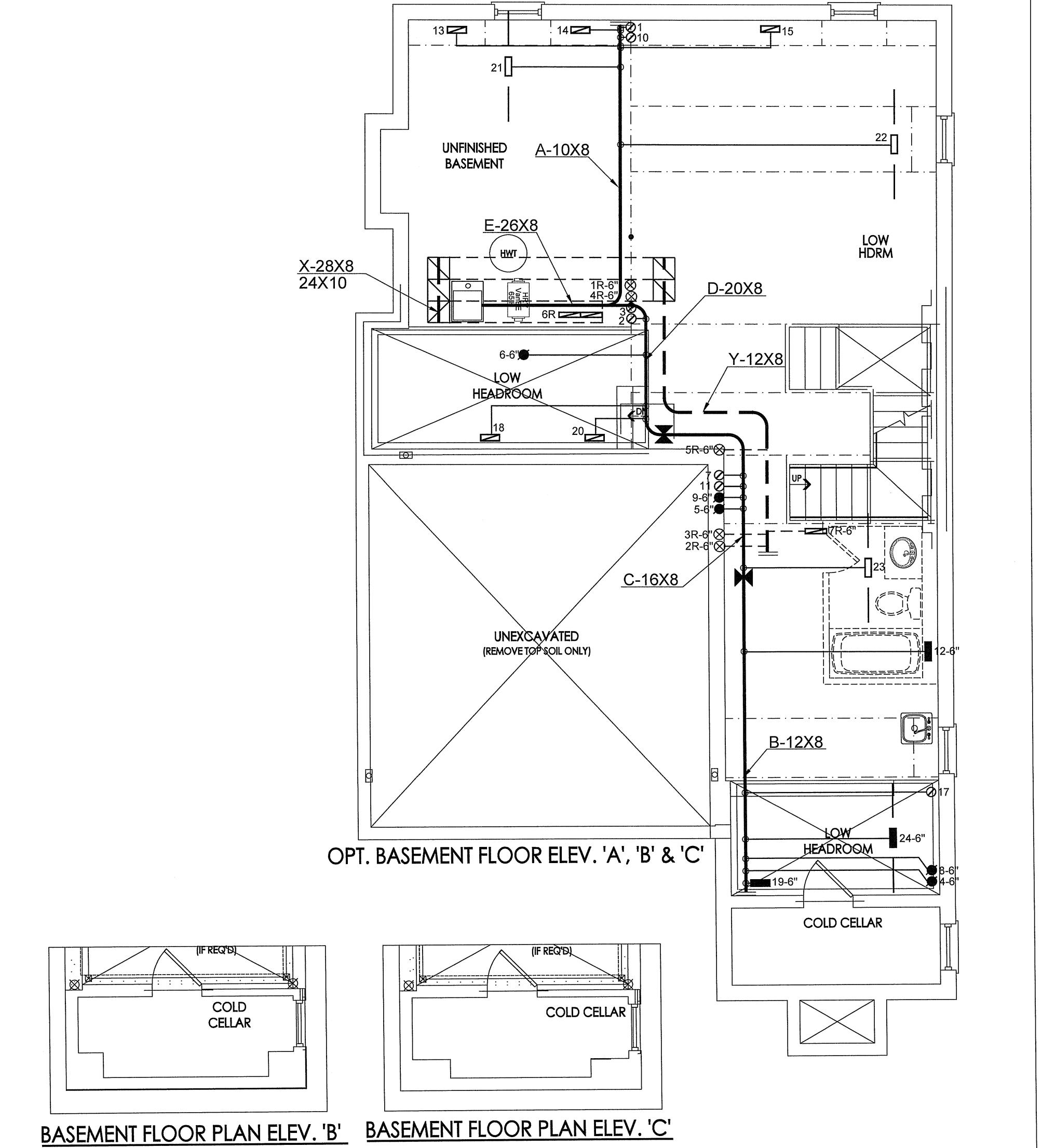
Air Infiltration Residential Load Calculator

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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	943.6			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	880.8 cm ²		
	2.50	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.227			
Cooling Air Leakage Rate (ACH/H):	0.071			

TYPE: 38-8
LO# 90456

OPT MAIN & OPT 2ND



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.

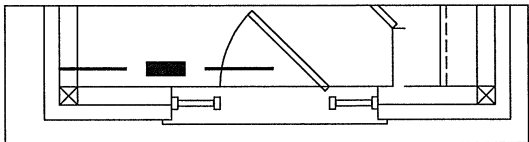
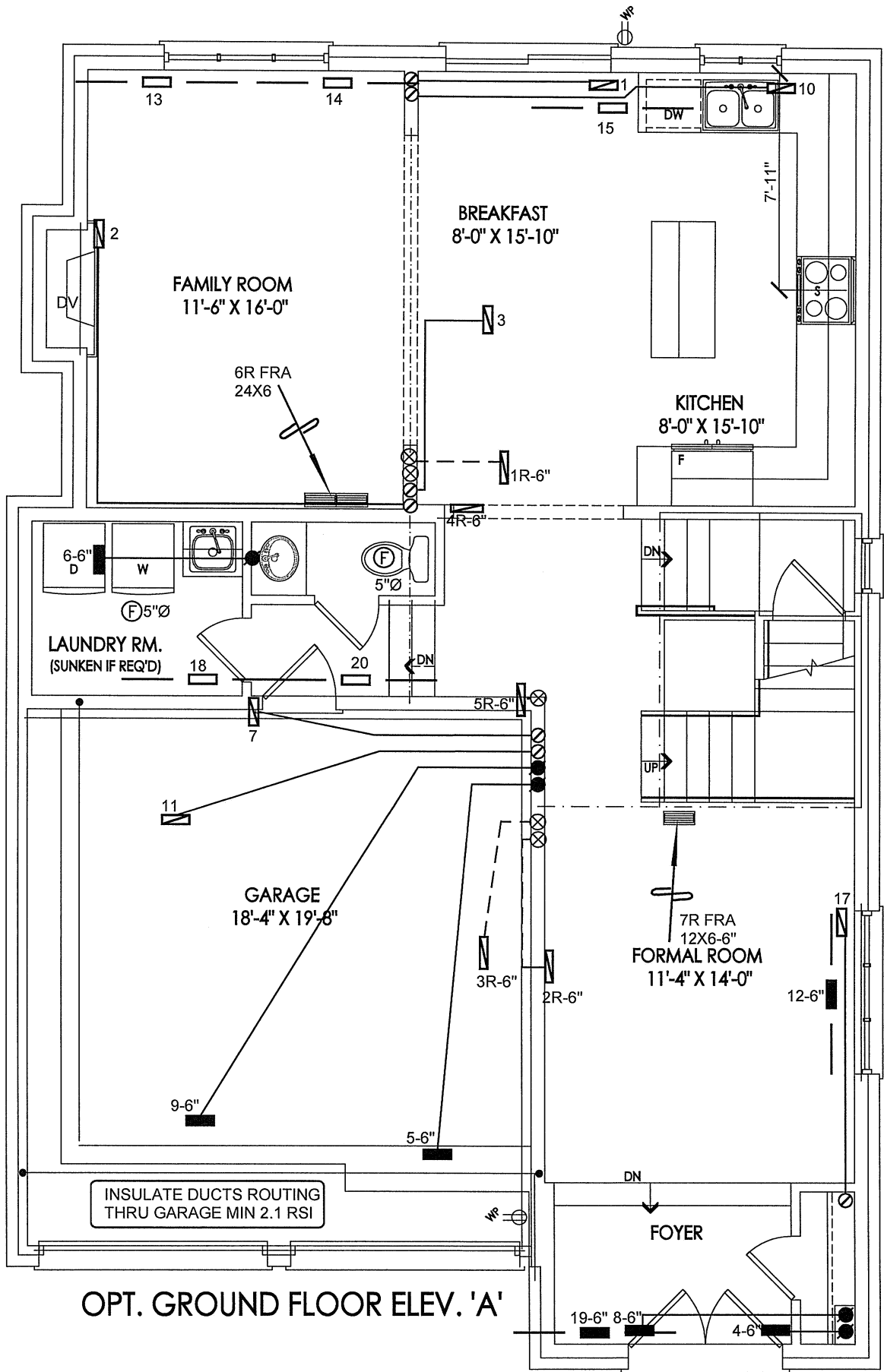
CSA-F280-12

SB-12 PERFORMANCE

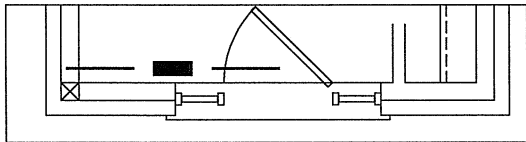
HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER
						REVISIONS	
						No.	Description Date

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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		HEAT LOSS 41587 BTU/H		# OF RUNS S/A R/A FANS		BASEMENT HEATING LAYOUT	
ROYAL PINE HOMES				UNIT DATA		3RD FLOOR			
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO		MAKE CARRIER		2ND FLOOR 12 5 3					
		MODEL 59TN6A-060-14V		1ST FLOOR 7 2 3					
OPT MAIN & OPT 2ND 38-8 2389 sqft		INPUT 60 MBTU/H		BASEMENT 4 1 0		Date APR/2021			
		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		Scale 3/16" = 1'-0"			
		COOLING 2.5 TONS				BCIN# 19669			
		FAN SPEED 970 cfm @ 0.6" w.c.				LO# 90456			



GROUND FLOOR PLAN ELEV. 'B'



GROUND FLOOR PLAN ELEV. 'C'

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

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

CSA-F280-12

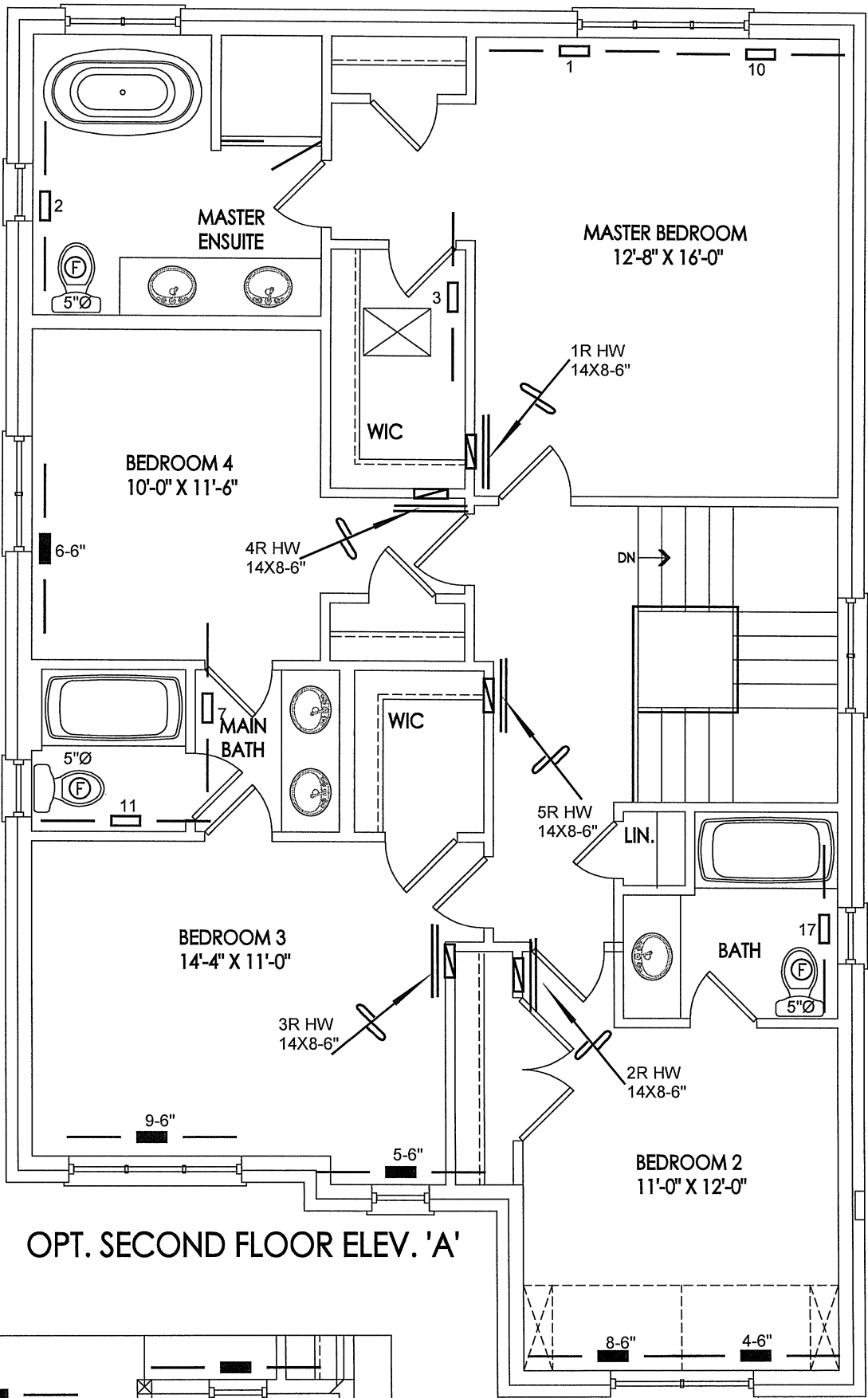
SB-12 PERFORMANCE

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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

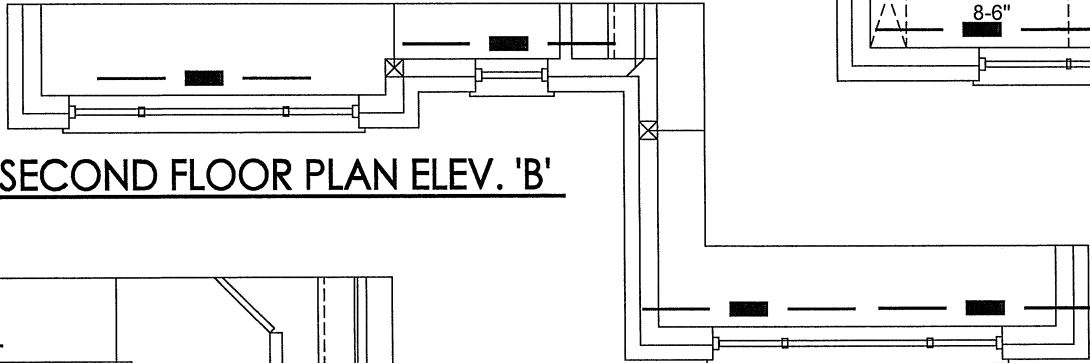
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Client ROYAL PINE HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to 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 APR/2021	
OPT MAIN & OPT 2ND 38-8			Scale 3/16" = 1'-0"	
2389 sqft			BCIN# 19669	
			LO# 90456	

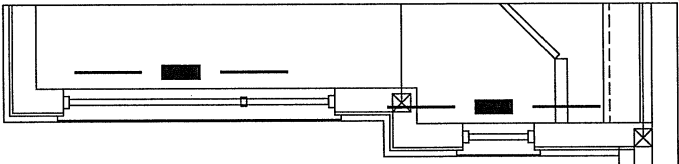
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.



OPT. SECOND FLOOR ELEV. 'A'



SECOND FLOOR PLAN ELEV. 'B'



SECOND FLOOR PLAN ELEV. 'C'

I MICHAEL O'ROURKE HAVE REVIEW
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.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client		 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	
ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	APR/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT MAIN & OPT 2ND 38-8 2389 sqft			BCIN# 19669	
		LO#	90456	