

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: 4504 OPT. 2ND 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.			
June 7, 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.

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

SITE NAME: CENTREFIELD (WEST GORMLEY) BUILDING: ROYAL PINE HOMES OPT. 2ND TYPE: 4504

DATE: Jun-21 LO# 87514 GFA: 3223 WINTER NATURAL AIR CHANGE RATE 0.219 SUMMER NATURAL AIR CHANGE RATE 0.068 HEAT LOSS AT °F. 78 HEAT GAIN AT °F. 13 CSA-F280-12 SB-12 PERFORMANCE

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-4/5	BED-5	ENS-2/3	SB-12 PERFORMANCE
GRS.WALL AREA	288	32	8	40	296	104	360	48	96	184	
GLAZING											
NORTH	21.8	16.0	0	0	0	0	0	0	0	0	
EAST	21.8	41.6	0	0	0	0	0	0	0	0	
SOUTH	21.8	24.9	0	0	0	0	0	0	0	0	
WEST	21.8	41.6	0	0	0	0	0	0	0	0	
SKYL.T.	35.8	101.2	0	0	0	0	0	0	0	0	
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.2	0.7	252	1060	174	65	273	45	40	168	
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.3	0.6	289	380	170	124	163	73	68	89	
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS											
SLAB ON GRADE HEAT LOSS											
SUBTOTAL HT LOSS											
SUB TOTAL HT GAIN											
LEVEL FACTOR / MULTIPLIER											
AIR CHANGE HEAT LOSS											
AIR CHANGE HEAT GAIN											
DUCT LOSS											
DUCT GAIN											
HEAT GAIN PEOPLE											
HEAT GAIN APPLIANCES/LIGHTS											
TOTAL HT LOSS BTU/H											
TOTAL HT GAIN x 1.3 BTU/H											

ROOM USE	EXP. WALL CLG. HT.	LIV	DIN	KTGT	DEN	LAUN	WIR	FOY	MUD	BAS
GRS.WALL AREA	250	250	250	250	250	250	250	250	250	250
GLAZING										
NORTH	21.8	16.0	0	0	0	0	0	0	0	0
EAST	21.8	41.6	0	0	0	0	0	0	0	0
SOUTH	21.8	24.9	0	0	0	0	0	0	0	0
WEST	21.8	41.6	0	0	0	0	0	0	0	0
SKYL.T.	35.8	101.2	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	210	883	145	222	934	154	20	517
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	1.3	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										
SLAB ON GRADE HEAT LOSS										
SUBTOTAL HT LOSS										
SUB TOTAL HT GAIN										
LEVEL FACTOR / MULTIPLIER										
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AIR CHANGE HEAT GAIN										
DUCT LOSS										
DUCT GAIN										
HEAT GAIN PEOPLE										
HEAT GAIN APPLIANCES/LIGHTS										
TOTAL HT LOSS BTU/H										
TOTAL HT GAIN x 1.3 BTU/H										

TOTAL HEAT GAIN BTU/H: 41465 TONS: 3.45 LOSS DUE TO VENTILATION LOAD BTU/H: 2004 STRUCTURAL HEAT LOSS: 48496 TOTAL COMBINED HEAT LOSS BTU/H: 50499

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. MICHAEL O'ROURKE INDIVIDUAL BCIN: 19669

GFA: 3223 LO# 87514

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35

**CARRIER

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

Run Count	4th	3rd	2nd
S/A	0	0	14
R/A	0	0	5

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

	r/a pressure	0.17
r/a grille press. Loss	0.02	
adjusted pressure r/a	0.15	

Parameter	Value
Atmospheric pressure	1.01325 bar
Sea level pressure	1.01325 bar
Static pressure	1.01325 bar
Dynamic pressure	0.18 bar
Stagnation pressure	1.19325 bar
Pressure loss	0.02 bar
Static pressure	1.01325 bar
Dynamic pressure	0.16 bar
Stagnation pressure	1.17325 bar

TEMPERATURE RISE 39 °F

TRUNK	25	26	27	28	29
ROOM NAME	BAS	DIN	DEN	ENS	BED-3
RM LOSS MBH.	2.95	1.99	1.77	0.90	1.33
CFM PER RUN HEAT	83	56	50	26	38
RM GAIN MBH.	0.41	1.86	2.19	0.67	2.20
CFM PER RUN COOLING	14	62	73	22	73
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	47	39	22	26	43
EQUIVALENT LENGTH	150	140	150	180	180
TOTAL EFFECTIVE LENGTH	197	179	172	206	223
ADJUSTED PRESSURE	0.08	0.1	0.1	0.08	0.08
ROUND DUCT SIZE	6	6	5	4	5
HEATING VELOCITY (ft/min)	423	286	367	298	279
COOLING VELOCITY (ft/min)	71	316	536	252	536
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10
TRUNK	A	B	E	C	C

SUPPLY AIR TRUNK SIZE					RETURN AIR TRUNK SIZE				
TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.07	317	10	8	TRUNK G	0.00	0	0	8
TRUNK B	0.07	9.4	10	X	TRUNK H	0	0	0	X
TRUNK C	0.07	11.3	14	8	TRUNK I	0.00	0	0	8
TRUNK D	0.07	13.5	18	10	TRUNK J	0.00	0	0	X
TRUNK E	0.07	7.7	10	X	TRUNK K	0.00	0	0	8
TRUNK F	0.08	11.2	14	X	TRUNK L	0.00	0	0	X
TRUNK G	0.08	11.2	14	8					
TRUNK H	0.08	11.2	14	8					
TRUNK I	0.08	11.2	14	8					
TRUNK J	0.08	11.2	14	8					
TRUNK K	0.08	11.2	14	8					
TRUNK L	0.08	11.2	14	8					

RETURN AIR #	1	2	3	4	5	6	7	8	BR	TRUNK V	0	0.05	0	0	8	0
AIR VOLUME	0	115	0	0	0	0	0	0	0	TRUNK W	245	0.05	9.3	10	8	441
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	TRUNK X	1230	0.05	17	26	10	681
ACTUAL DUCT LGH.	85	55	88	78	50	57	37	15	0	TRUNK Y	1025	0.05	15.9	22	10	671
EQUIVALENT LENGTH	195	245	215	235	205	190	245	145	1	TRUNK Z	490	0.05	12.1	18	8	490
TOTAL EFFECTIVE LH	280	300	303	313	255	247	282	160	1	DROP	1370	0.05	17.7	24	12	685
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.09	14.80							
ROUND DUCT SIZE	7	7	7	7	8	8	10,1	6.5	0							
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0							
INLET GRILL SIZE	14	14	14	14	14	14	30	14	0							

TYPE: 4504
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87514
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	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	201.4 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		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	106.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
95.4 cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM	ΔT °F	FACTOR	% LOSS		
95.4 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
ENS-4/5	BY INSTALLING CONTRACTOR	50	✓	3.5
ENS-2/3	BY INSTALLING CONTRACTOR	50	✓	3.5
W/R	BY INSTALLING CONTRACTOR	50	✓	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 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:	
HRAI #	001820
Date:	June-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																							
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																							
LO#: 87514	Model: 4504	Builder: ROYAL PINE HOMES	Date: 6/7/2021																																																																				
Volume Calculation		Air Change & Delta T Data																																																																					
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6.2.6 Sensible Gain due to Air Leakage																																																																							
$HG_{satb} = LR_{atrc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																							
0.219	x	328.53	x																																																																				
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			191 W																																																																				
$= 0.068 \times 328.53 \times 7 \times 1.2 = 652 \text{ Btu/h}$																																																																							
6.2.7 Sensible heat Gain due to Ventilation																																																																							
$HL_{natrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																							
95 CFM	x	13 °F	x																																																																				
		1.08	x																																																																				
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			330 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 HLairve = 0																																																																							

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4504	OPT. 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 3223	LO# 87514	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

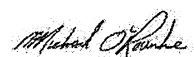
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	41767.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 46.0 ft	WIDTH: 37.0 ft	EXPOSED PERIMETER:	166.0 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%	-

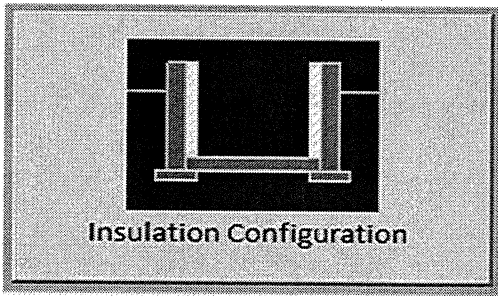
INDIVIDUAL BCIN: 19669

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):	14.0	 Insulation Configuration
Floor Width (m):	11.3	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.9	
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):	1638	

TYPE: 4504
LO# 87514

OPT. 2ND

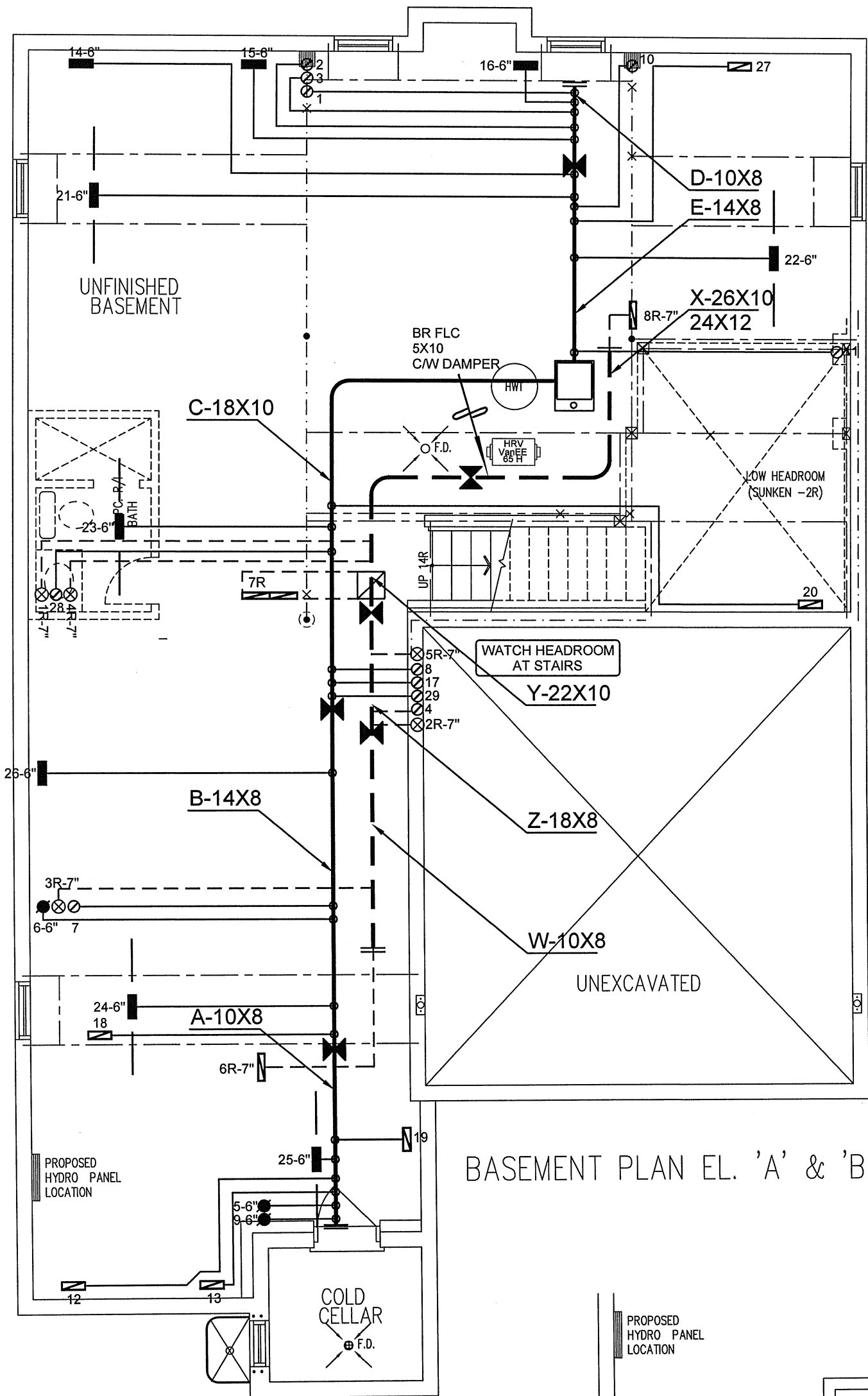
Air Infiltration Residential Load Calculator

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):	6.40			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1182.7			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1104.1 cm ²		
	2.50	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	45.0	45.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.219			
Cooling Air Leakage Rate (ACH/H):	0.068			

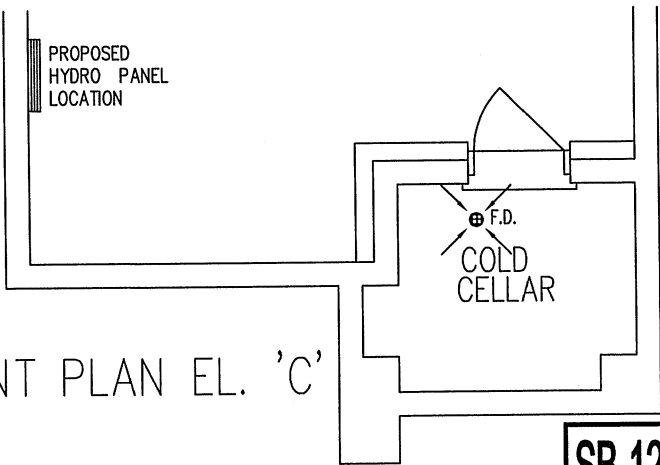
TYPE: 4504
LO# 87514

OPT. 2ND



BASEMENT PLAN EL. 'A' & 'B'

BASEMENT PLAN EL. 'C'



CSA-F280-12

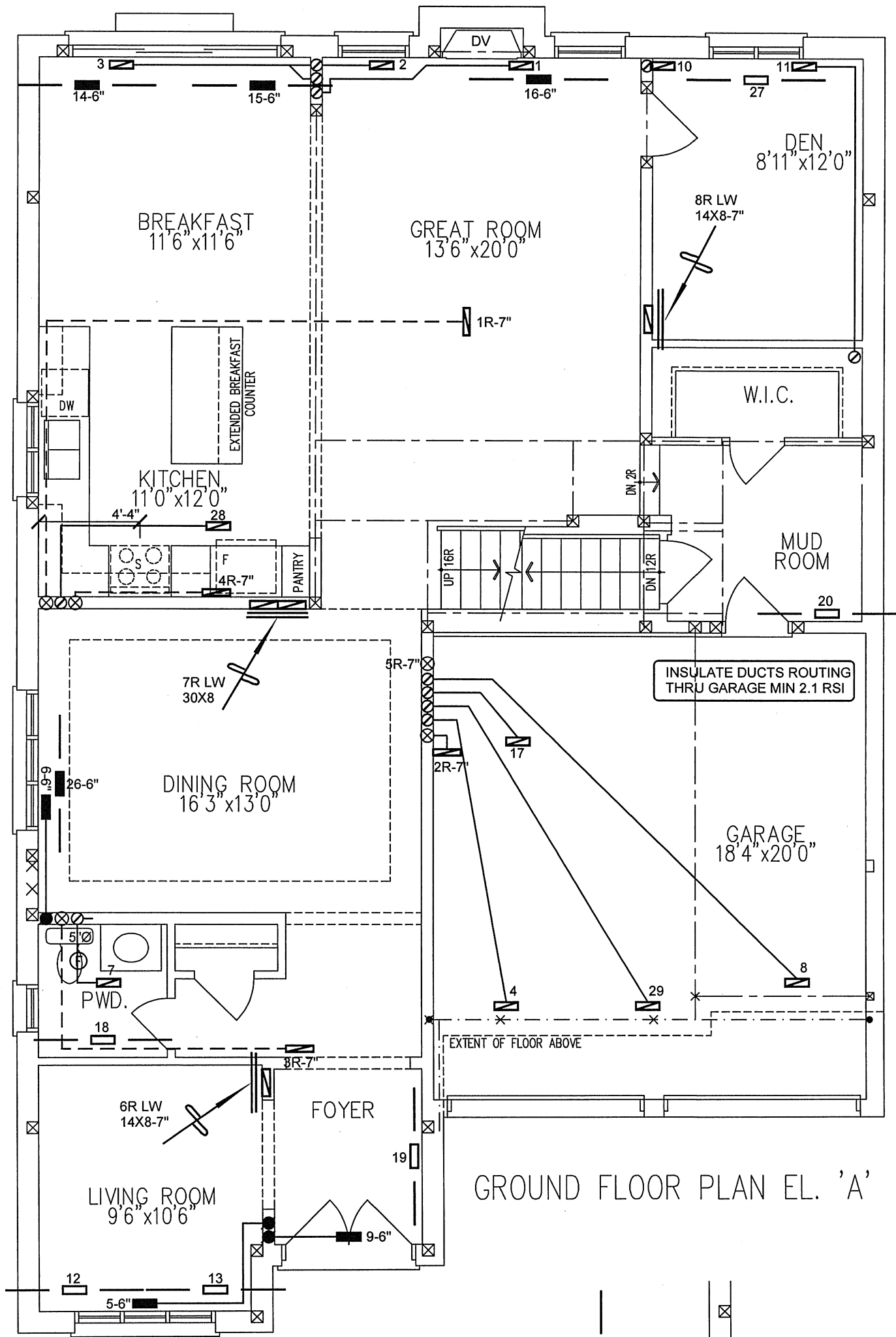
SB-12 PERFORMANCE

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.

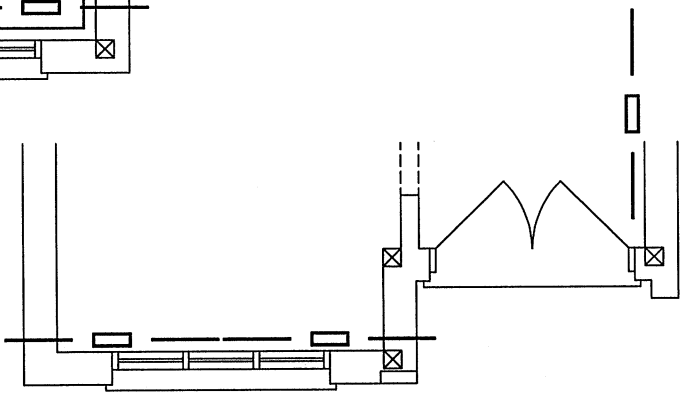
HVAC DESIGNS LTD.		HVAC LEGEND						3.	REVISED AS PER CAD	JUNE/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	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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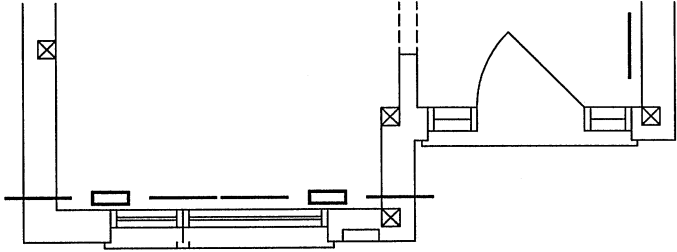
Client ROYAL PINE HOMES		HVAC DESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services		HEAT LOSS 50499 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title BASEMENT HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO				MAKE CARRIER		3RD FLOOR			
		MODEL 59TN6A-060-14V		2ND FLOOR					
OPT. 2ND 4504		INPUT 60 MBTU/H		1ST FLOOR		10 3 2		Date SEPT/2020	
		OUTPUT 58 MBTU/H		BASEMENT		5 1 0		Scale 3/16" = 1'-0"	
		COOLING 3.5 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					
		FAN SPEED 1370 cfm @ 0.6" w.c.							
3223 sqft		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.						BCIN# 19669	
								LO# 87514	



GROUND FLOOR PLAN EL. 'A'



GROUND FLOOR PLAN EL. 'B'



GROUND FLOOR PLAN EL. 'C'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 32.5 OF THE BUILDING CODE.

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

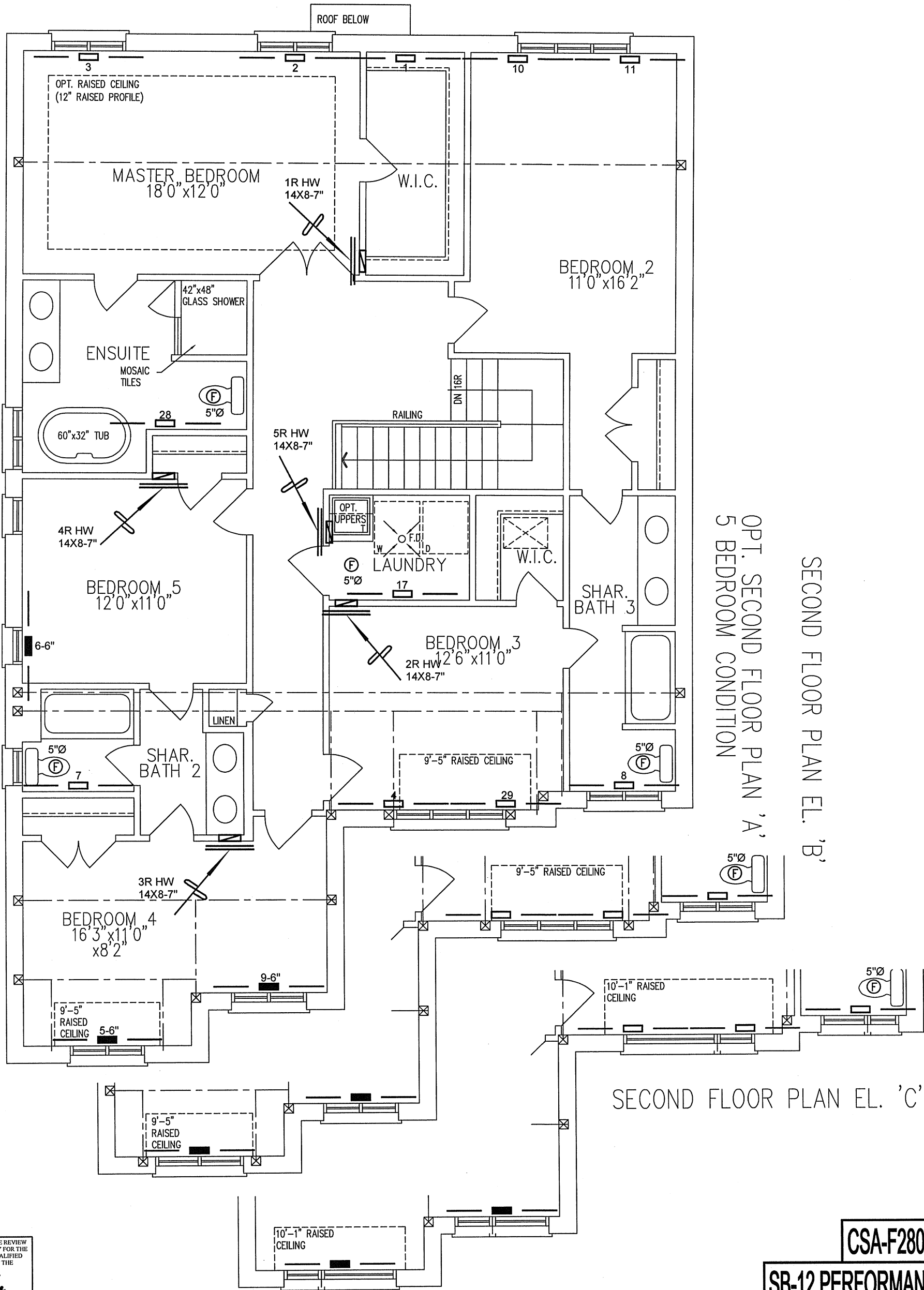
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND						3.	REVISED AS PER CAD	JUNE/2021
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.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No.
REVISIONS								Date

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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@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services	Sheet Title FIRST FLOOR HEATING LAYOUT
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			
OPT. 2ND 4504	3223 sqft	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.	Date SEPT/2020
			Scale 3/16" = 1'-0"
			BCIN# 19669
			LO# 87514



SECOND FLOOR PLAN EL. 'B'

OPT. SECOND FLOOR PLAN 'A'
5 BEDROOM CONDITION

SECOND FLOOR PLAN EL. '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, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND						3.	REVISED AS PER CAD	JUNE/2021
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.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No.
REVISIONS								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 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	SEPT/2020
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT. 2ND 4504			BCIN# 19669	
3223 sqft			LO#	87514