

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. GROUND & 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.			
April 23, 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)										DATE: Apr-21		WINTER NATURAL AIR CHANGE RATE 0.233		HEAT LOSS AT °F. 78		CSA-F280-12	
BUILDER: ROYAL PINE HOMES										LO# 90464		SUMMER NATURAL AIR CHANGE RATE 0.073		HEAT GAIN AT °F. 13		SB-12 PERFORMANCE	
TYPE: 4504										GFA: 3223		ENS-4/5		BED-5		ENS 3	
OPT. GROUND & OPT 2ND										BED-4		FOY		MUD		BAS	
FACTORS										WLR		WIR		WIR		WIR	
ROOM USE										LAUN		KIT/GT		DIN		LIV	
EXP. WALL										DIN		DIN		DIN		DIN	
CLG. HT.										CLG. HT.		CLG. HT.		CLG. HT.		CLG. HT.	
GRS.WALL AREA										GRS.WALL AREA		GRS.WALL AREA		GRS.WALL AREA		GRS.WALL AREA	
GLAZING										GLAZING		GLAZING		GLAZING		GLAZING	
NORTH										NORTH		NORTH		NORTH		NORTH	
EAST										EAST		EAST		EAST		EAST	
SOUTH										SOUTH		SOUTH		SOUTH		SOUTH	
WEST										WEST		WEST		WEST		WEST	
SKYLT.										SKYLT.		SKYLT.		SKYLT.		SKYLT.	
DOORS										DOORS		DOORS		DOORS		DOORS	
NET EXPOSED WALL										NET EXPOSED WALL		NET EXPOSED WALL		NET EXPOSED WALL		NET EXPOSED WALL	
NET EXPOSED BSMT WALL ABOVE GR										NET EXPOSED BSMT WALL ABOVE GR		NET EXPOSED BSMT WALL ABOVE GR		NET EXPOSED BSMT WALL ABOVE GR		NET EXPOSED BSMT WALL ABOVE GR	
EXPOSED CLG										EXPOSED CLG		EXPOSED CLG		EXPOSED CLG		EXPOSED CLG	
NO ATTIC EXPOSED CLG										NO ATTIC EXPOSED CLG		NO ATTIC EXPOSED CLG		NO ATTIC EXPOSED CLG		NO ATTIC EXPOSED CLG	
EXPOSED FLOOR										EXPOSED FLOOR		EXPOSED FLOOR		EXPOSED FLOOR		EXPOSED FLOOR	
BASEMENT/CRAWL HEAT LOSS										BASEMENT/CRAWL HEAT LOSS		BASEMENT/CRAWL HEAT LOSS		BASEMENT/CRAWL HEAT LOSS		BASEMENT/CRAWL HEAT LOSS	
SLAB ON GRADE HEAT LOSS										SLAB ON GRADE HEAT LOSS		SLAB ON GRADE HEAT LOSS		SLAB ON GRADE HEAT LOSS		SLAB ON GRADE HEAT LOSS	
SUBTOTAL HT LOSS										SUBTOTAL HT LOSS		SUBTOTAL HT LOSS		SUBTOTAL HT LOSS		SUBTOTAL HT LOSS	
SUB TOTAL HT GAIN										SUB TOTAL HT GAIN		SUB TOTAL HT GAIN		SUB TOTAL HT GAIN		SUB TOTAL HT GAIN	
LEVEL FACTOR / MULTIPLIER										LEVEL FACTOR / MULTIPLIER		LEVEL FACTOR / MULTIPLIER		LEVEL FACTOR / MULTIPLIER		LEVEL FACTOR / MULTIPLIER	
AIR CHANGE HEAT LOSS										AIR CHANGE HEAT LOSS		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT LOSS		AIR CHANGE HEAT LOSS	
AIR CHANGE HEAT GAIN										AIR CHANGE HEAT GAIN		AIR CHANGE HEAT GAIN		AIR CHANGE HEAT GAIN		AIR CHANGE HEAT GAIN	
DUCT LOSS										DUCT LOSS		DUCT LOSS		DUCT LOSS		DUCT LOSS	
DUCT GAIN										DUCT GAIN		DUCT GAIN		DUCT GAIN		DUCT GAIN	
HEAT GAIN PEOPLE										HEAT GAIN PEOPLE		HEAT GAIN PEOPLE		HEAT GAIN PEOPLE		HEAT GAIN PEOPLE	
HEAT GAIN APPLIANCES/LIGHTS										HEAT GAIN APPLIANCES/LIGHTS		HEAT GAIN APPLIANCES/LIGHTS		HEAT GAIN APPLIANCES/LIGHTS		HEAT GAIN APPLIANCES/LIGHTS	
TOTAL HT LOSS BTU/H										TOTAL HT LOSS BTU/H		TOTAL HT LOSS BTU/H		TOTAL HT LOSS BTU/H		TOTAL HT LOSS BTU/H	
TOTAL HT GAIN x 1.3 BTU/H										TOTAL HT GAIN x 1.3 BTU/H		TOTAL HT GAIN x 1.3 BTU/H		TOTAL HT GAIN x 1.3 BTU/H		TOTAL HT GAIN x 1.3 BTU/H	

SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMESTYPE: 4504
OPT. GROUND & OPT 2ND

DATE: Apr-21

GFA: 3223 LO# 90464

HEATING CFM 1370 COOLING CFM 1370
TOTAL HEAT LOSS 51,976 TOTAL HEAT GAIN 42,134
AIR FLOW RATE CFM 26.3659TNA-060-14V 60
FAN SPEED
LOW 820
MEDIUM 0
HIGH 1370
MEDIUM HIGH 1520AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	10	5
R/A	0	0	5	3	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	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	WIC	MBR	MBR	BED-3	BED-4	BED-5	ENS-4/5	ENS-3	BED-4	BED-2	BED-2	LIV	LIV	KT/GT	KT/GT	KT/GT	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	0.34	1.35	1.35	1.37	1.92	1.23	0.56	2.22	1.92	1.39	1.39	1.23	1.23	2.24	2.24	2.24	0.32	0.58	2.57	1.64	3.18	3.18	3.18	3.18
CFM PER RUN HEAT	9	36	36	36	51	32	15	58	51	37	37	32	32	59	59	59	8	15	68	43	84	84	84	84
RM GAIN MBH	0.10	1.99	1.99	2.28	2.66	1.96	0.35	1.61	2.66	1.60	1.60	1.67	1.67	2.35	2.35	2.35	1.05	0.36	1.73	0.28	0.44	0.44	0.44	0.44
CFM PER RUN COOLING	3	65	65	74	86	64	11	52	86	52	52	54	54	76	76	76	34	12	56	9	14	14	14	14
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	53	45	62	41	61	59	49	46	57	64	61	54	48	44	35	44	31	43	35	41	36	46	21	40
TOTAL EFFECTIVE LENGTH	223	225	252	221	241	229	219	246	207	284	201	244	218	174	155	204	221	163	195	201	126	146	151	150
ADJUSTED PRESSURE	0.08	0.08	0.07	0.08	0.07	0.08	0.08	0.07	0.08	0.06	0.09	0.07	0.08	0.1	0.11	0.08	0.08	0.11	0.09	0.09	0.13	0.11	0.11	0.11
ROUND DUCT SIZE	4	6	6	5	6	6	4	5	6	5	5	5	5	6	6	6	4	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	103	184	184	264	260	163	172	426	260	272	272	235	235	301	301	301	92	172	499	493	428	428	428	428
COOLING VELOCITY (ft/min)	34	331	331	543	438	326	126	382	438	382	382	396	396	388	388	388	390	138	411	103	71	71	71	71
OUTLET GRILL SIZE	3X10	4X10	4X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	C	C	B	A	B	B	E	A	C	D	A	A	C	C	C	B	B	A	D	D	D	D	B

RUN #	25	26	27	28	29
ROOM NAME	BAS	DIN	KT/GT	ENS	BED-3
RM LOSS MBH	3.18	2.18	2.24	0.98	1.37
CFM PER RUN HEAT	84	58	59	26	36
RM GAIN MBH	0.44	2.03	2.35	0.68	2.28
CFM PER RUN COOLING	14	66	76	22	74
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	39	33	43	43	40
EQUIVALENT LENGTH	150	140	170	180	180
TOTAL EFFECTIVE LENGTH	189	173	213	223	220
ADJUSTED PRESSURE	0.09	0.1	0.08	0.08	0.08
ROUND DUCT SIZE	6	6	6	4	5
HEATING VELOCITY (ft/min)	428	296	301	298	264
COOLING VELOCITY (ft/min)	71	337	388	252	543
OUTLET GRILL SIZE	4X10	4X10	4X10	3X10	3X10
TRUNK	A	B	C	D	B

SUPPLY 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	318	0.07	9.4	12	8	477	0.00	0	0	0
TRUNK B	602	0.07	12	18	8	602	0.00	0	0	0
TRUNK C	354	0.06	10.2	14	8	455	0.00	0	0	0
TRUNK D	712	0.06	13.3	20	8	641	0.00	0	0	0
TRUNK E	1372	0.06	17	26	10	760	0.00	0	0	0
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	115	105	105	135	125	370	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	53	47	73	45	42	48	23	57	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	215	175	255	255	135	215	260	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	288	222	328	300	177	263	283	232	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.05	0.05	0.08	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	6.7	6.5	6.8	6.8	6.6	6.9	10.9	6.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 4504
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 90464
OPT. GROUND & 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>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</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>95.4</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>95.4</u>	cfm
Required Supplemental Capacity	<u>95.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>95.4</u> 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

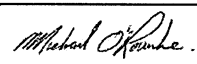
SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR				
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4/5	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS 3	BY INSTALLING CONTRACTOR	50	☒	3.5
W/R	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<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#: 90464		Model: 4504		Builder: ROYAL PINE HOMES		Date: 4/23/2021																																																													
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																																																															
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.233 x 365.31 x 43 °C x 1.2 = 4411 W = 15051 Btu/h				$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.073 x 365.31 x 7 °C x 1.2 = 226 W = 772 Btu/h																																																															
5.2.3.2 Heat Loss due to Mechanical Ventilation				6.2.7 Sensible heat Gain due to Ventilation																																																															
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 95 CFM x 78 °F x 1.08 x 0.25 = 2004 Btu/h				$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 95 CFM x 13 °F x 1.08 x 0.25 = 330 Btu/h																																																															
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																			
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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. GROUND & OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 3223	LO# 90464	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 (ft ³):	46443.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.40	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 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%	-

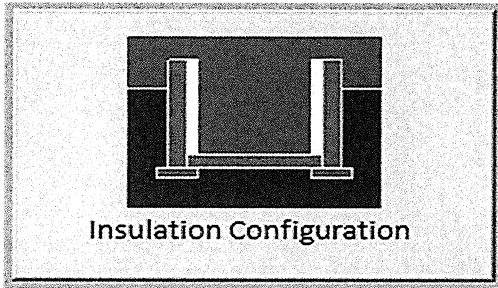
INDIVIDUAL BCIN: 19669

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):	3.0	
Depth Below Grade (m):	2.13	
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):		1635

TYPE: 4504
LO# 90464

OPT. GROUND & OPT 2ND

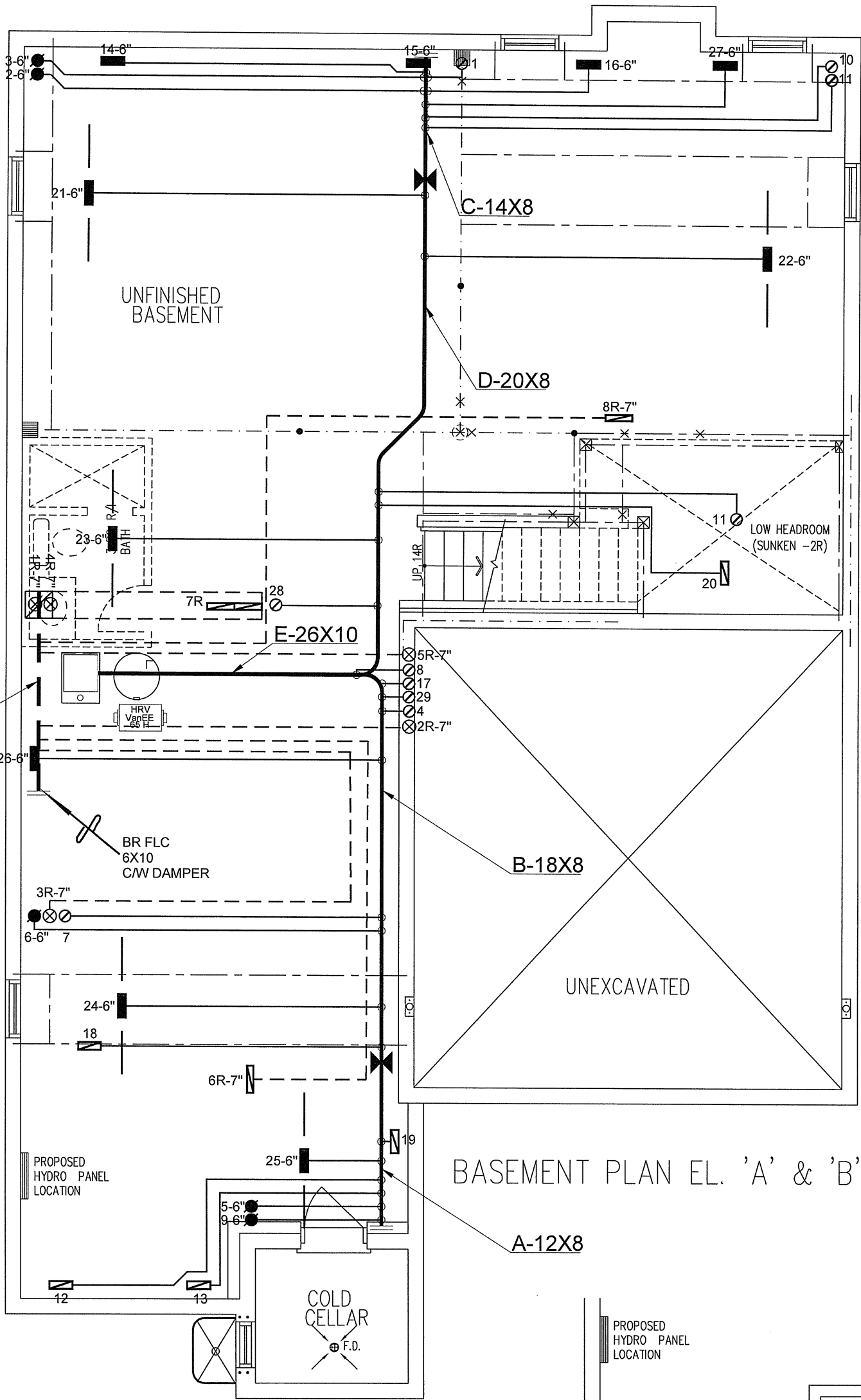
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

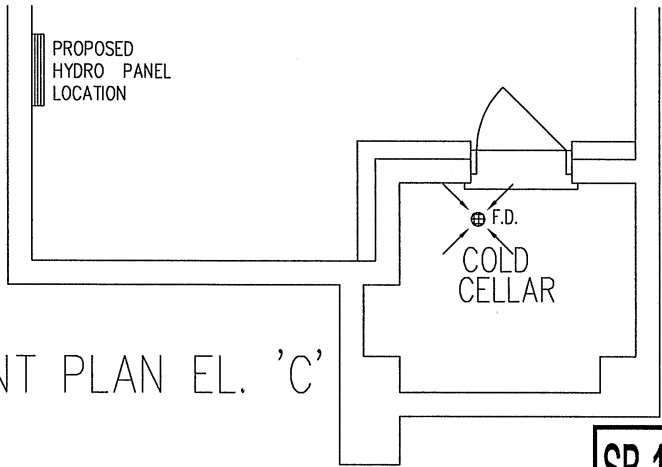
Weather Station Description				
Province:	Ontario			
Region:	Richmond Hill			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1315.1			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1227.7 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):	0.233			
Cooling Air Leakage Rate (ACH/H):	0.073			

TYPE: 4504
LO# 90464

OPT. GROUND & OPT 2ND



BASEMENT PLAN EL. 'A' & 'B'



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

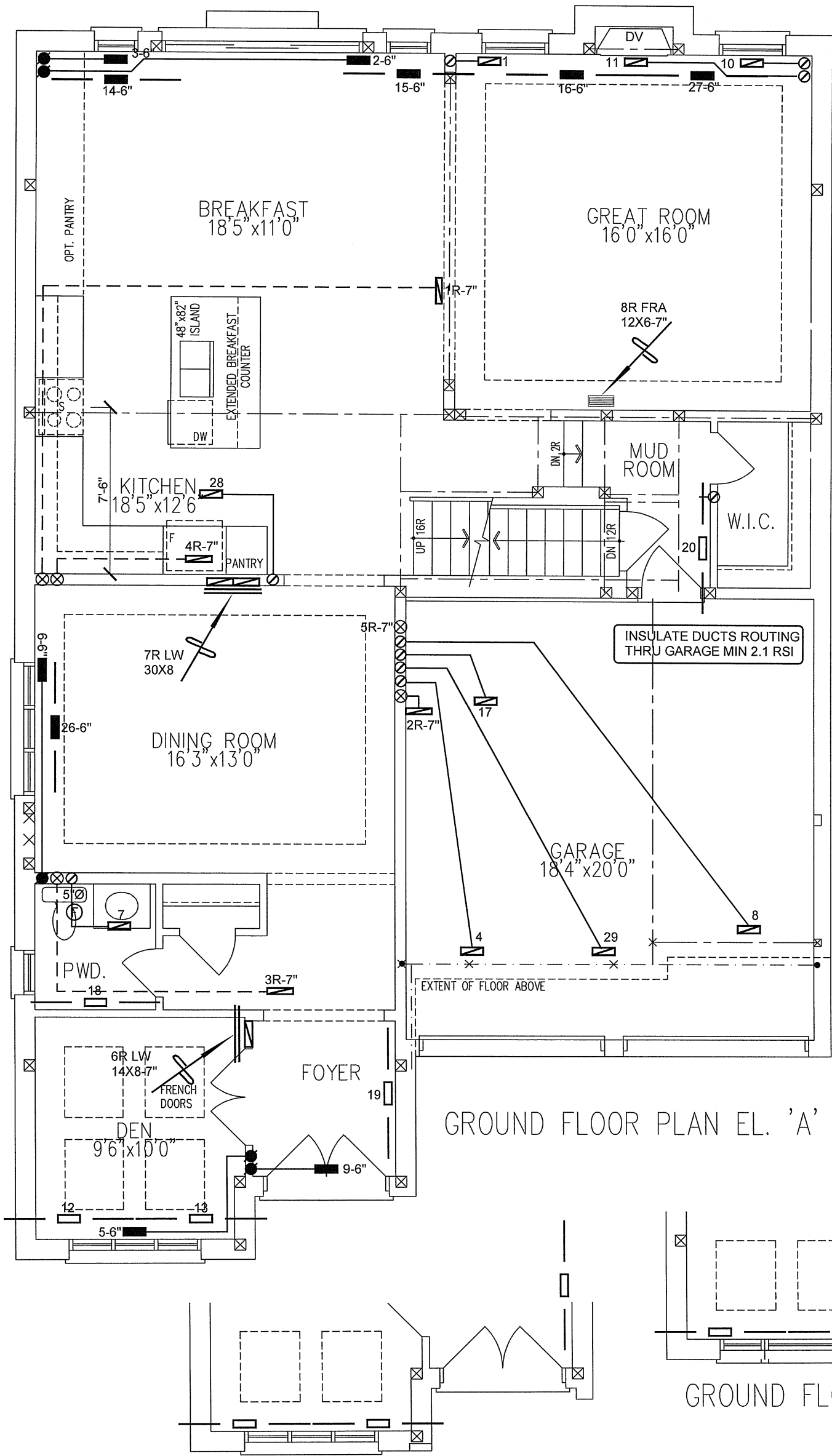
CSA-F280-12

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.	HEAT LOSS 53980 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
ROYAL PINE HOMES			MAKE CARRIER		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			MODEL 59TN6A-060-14V		2ND FLOOR	14	5	4	
OPT. GROUND & OPT 2ND 4504 3223 sqft			INPUT 60 MBTU/H		1ST FLOOR	10	3	2	Date APR/2021
			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				BCIN# 19669	
		FAN SPEED 1370 cfm @ 0.6" w.c.						LO# 90464	



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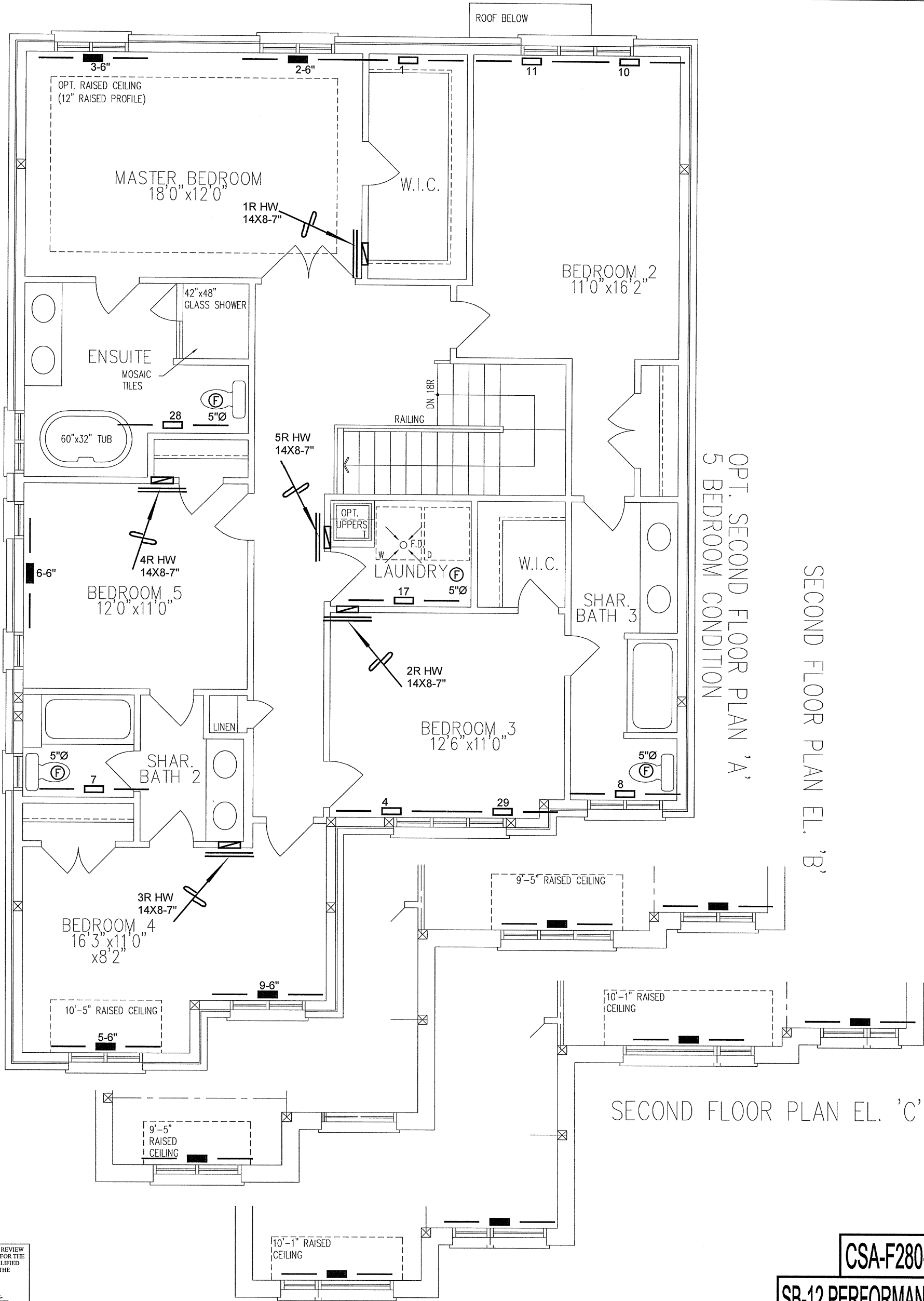
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND							3.		
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							REVISIONS		

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ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name		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	APR/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT. GROUND & OPT 2ND 4504 3223 sqft			BCIN# 19669	
		LO# 90464		

CSA-F280-12
SB-12 PERFORMANCE



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

CSA-F280-12

SB-12 PERFORMANCE

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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	APR/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT. GROUND & OPT 2ND 4504			BCIN# 19669	
3223 sqft		LO# 90464		
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.				