

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: 4506 OPT GROUND 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.				
June 4, 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 GROUND		GFA: 3348		DATE: Jun-21		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F.		CSA-P280-78							
BUILDER: ROYAL PINE HOMES										TYPE: 4506				LO# 9152		SUMMER NATURAL AIR CHANGE RATE		HEAT GAIN AT °F.		SB-12 PERFORMANCE							
ROOM USE		EXP. WALL		CLG. HT.		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		COMP		LAUN		EINS-2		LAUN-2	
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SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMESOPT GROUND
TYPE: 4506

DATE: Jun-21

GFA: 3348 LO# 91152

HEATING CFM 1370 COOLING CFM 1370
TOTAL HEAT LOSS 58,176 TOTAL HEAT GAIN 42,280
AIR FLOW RATE CFM 23.55 AIR FLOW RATE CFM 32.459TN6A-080-14V 80
FAN SPEED

**CARRIER

AFUE = 97 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 78,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	11	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	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	COMP	LAUN	MBR	ENS-2	DIN	FAM	KIT	KIT	LIV	WIC-3	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	0.93	1.58	1.19	1.75	2.12	1.16	1.16	0.91	0.21	0.93	0.79	2.75	2.78	2.02	2.02	1.88	0.90	1.29	1.24	1.20	3.41	3.41	3.41	3.41
CFM PER RUN HEAT	22	37	28	41	50	27	21	26	5	22	19	65	65	47	47	44	21	30	50	28	80	80	80	80
RM GAIN MBH	1.53	1.51	0.28	2.07	2.48	1.37	0.59	1.14	0.74	1.53	0.31	2.40	2.85	2.01	2.01	2.22	0.68	0.70	0.59	0.83	0.40	0.40	0.40	0.40
CFM PER RUN COOLING	50	49	9	67	80	44	19	37	24	50	10	78	92	65	65	72	22	23	19	27	13	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	42	60	54	48	82	52	25	26	38	49	76	49	14	37	32	66	55	58	65	16	43	20	21	39
EQUIVALENT LENGTH	220	160	195	150	150	210	200	150	140	150	170	130	140	150	130	140	150	180	160	110	130	150	130	140
TOTAL EFFECTIVE LENGTH	262	220	249	198	232	262	262	225	176	178	199	246	179	154	187	206	205	238	225	126	173	170	151	179
ADJUSTED PRESSURE	0.07	0.08	0.07	0.09	0.07	0.07	0.08	0.1	0.1	0.09	0.07	0.1	0.11	0.09	0.11	0.08	0.08	0.07	0.08	0.14	0.1	0.1	0.11	0.1
ROUND DUCT SIZE	5	5	4	5	6	5	4	4	4	5	4	5	5	5	5	6	4	4	5	4	5	6	6	6
HEATING VELOCITY (ft/min)	162	272	321	301	255	198	241	298	57	162	218	477	477	345	345	345	224	241	344	367	321	587	408	408
COOLING VELOCITY (ft/min)	367	360	103	492	408	323	218	424	275	367	115	573	675	477	477	367	252	264	140	310	95	66	66	66
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	C	B	C	D	A	B	D	D	D	C	A	B	D	B	C	A	D	A	A	D	B	C	C	B

RUN #	25	26	27	28	29	30	31	32
ROOM NAME	BAS	ENS	BED-2	BED-3	BED-4	KIT	LIV	LAUN-2
RM LOSS MBH	3.41	1.58	1.75	2.12	1.16	2.02	1.88	0.94
CFM PER RUN HEAT	80	37	41	50	27	44	44	22
RM GAIN MBH	0.40	1.51	2.07	2.48	1.37	2.01	2.22	0.78
CFM PER RUN COOLING	13	49	67	80	44	65	72	25
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	68	43	39	79	66	34	67	14
EQUIVALENT LENGTH	150	200	180	210	240	130	160	120
TOTAL EFFECTIVE LENGTH	218	243	219	289	306	164	227	134
ADJUSTED PRESSURE	0.08	0.07	0.08	0.06	0.06	0.1	0.08	0.13
ROUND DUCT SIZE	6	5	5	6	5	5	6	4
HEATING VELOCITY (ft/min)	408	272	301	255	198	345	224	252
COOLING VELOCITY (ft/min)	66	360	492	408	323	477	367	287
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10
TRUNK	A	B	D	A	A	B	A	D

SUPPLY AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	394	0.06	10.6	14	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK B	420	0.07	10.5	14	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK C	1093	0.06	15.6	28	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK D	1363	0.06	16.9	26	10	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	8	0	0.05	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8	0	0.05	0	0	8

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	175	75	85	85	95	180	330	155	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	42	52	67	60	66	27	40	62	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	235	165	195	155	145	240	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	227	287	232	255	221	172	280	232	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.05	0.06	0.06	0.07	0.09	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	0.06
ROUND DUCT SIZE	7.5	6	6	6	6	7.2	10.4	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
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: 4506
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 91152
OPT GROUND

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	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	8 @ 10.6 cfm	84.8 cfm
Table 9.32.3.A.	TOTAL	212.0 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		79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	132.5	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
79.5 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	✓
ENS-2	BY INSTALLING CONTRACTOR	50	✓
W/R	BY INSTALLING CONTRACTOR	50	✓

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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	June-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																									
LO#: 91152		Model: 4506		Builder: ROYAL PINE HOMES		Date: 2021-06-04																																																			
Volume Calculation					Air Change & Delta T Data																																																				
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5.2.3.1 Heat Loss due to Air Leakage $HL_{airb} = LR_{airb} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.233 x 366.54 x 43 °C x 1.2 = 4426 W = 15101 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) $HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clvl})</th> <th>Air Leakage Heat Loss Multiplier (LF x Hlaireb / HL_{clvl})</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">15,101</td> <td>9,509</td> <td>0.794</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>16,386</td> <td>0.276</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,689</td> <td>0.181</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table> *HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system Hlairev = 0										Level	Level Factor (LF)	Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvl})	Air Leakage Heat Loss Multiplier (LF x Hlaireb / HL _{clvl})	1	0.5	15,101	9,509	0.794	2	0.3	16,386	0.276	3	0.2	16,689	0.181	4	0	0	0.000	5	0	0	0.000																						
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5	0		0	0.000																																																					
6.2.6 Sensible Gain due to Air Leakage $HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.073 x 366.54 x 7 °C x 1.2 = 227 W = 775 Btu/h																																																									
6.2.7 Sensible heat Gain due to Ventilation $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 13 °F x 1.08 x 0.25 = 275 Btu/h																																																									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4506	OPT GROUND	BUILDER: ROYAL PINE HOMES
SFQT: 3348	LO# 91152	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):	46599.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	188.0 ft

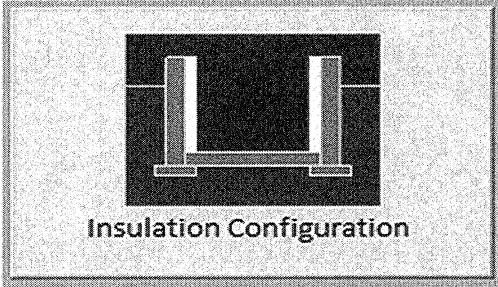
2012 OBC - COMPLIANCE PACKAGE		Compliance Package	
Component		SB-12 PERFORMANCE	
		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.70
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		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):	17.1	 Insulation Configuration
Floor Width (m):	11.6	
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):		1898

TYPE: 4506
LO# 91152

OPT GROUND

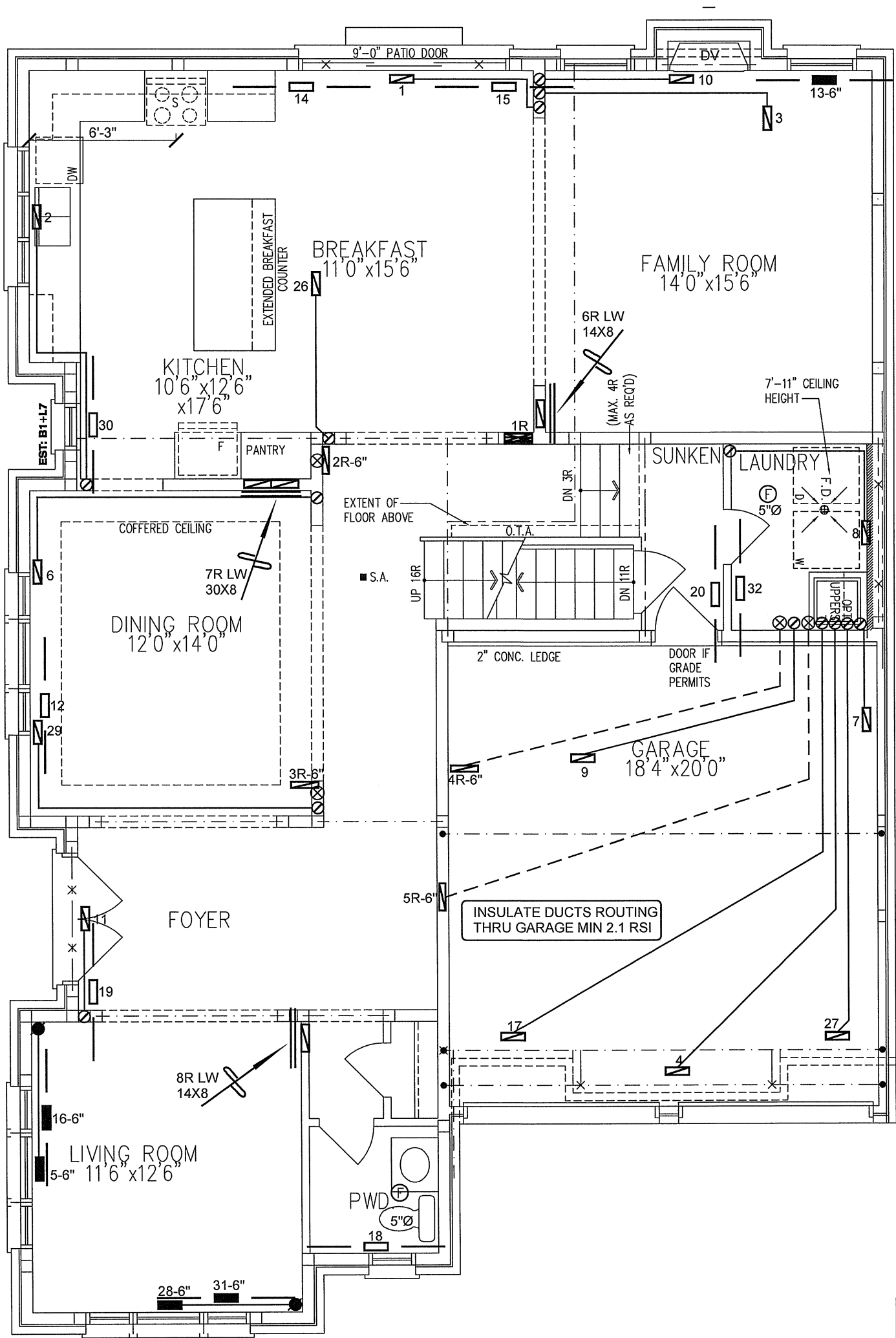
Air Infiltration Residential Load Calculator

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):	1319.5			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1231.8 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):	0.233			
Cooling Air Leakage Rate (ACH/H):	0.073			

TYPE: 4506
LO# 91152

OPT GROUND



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.

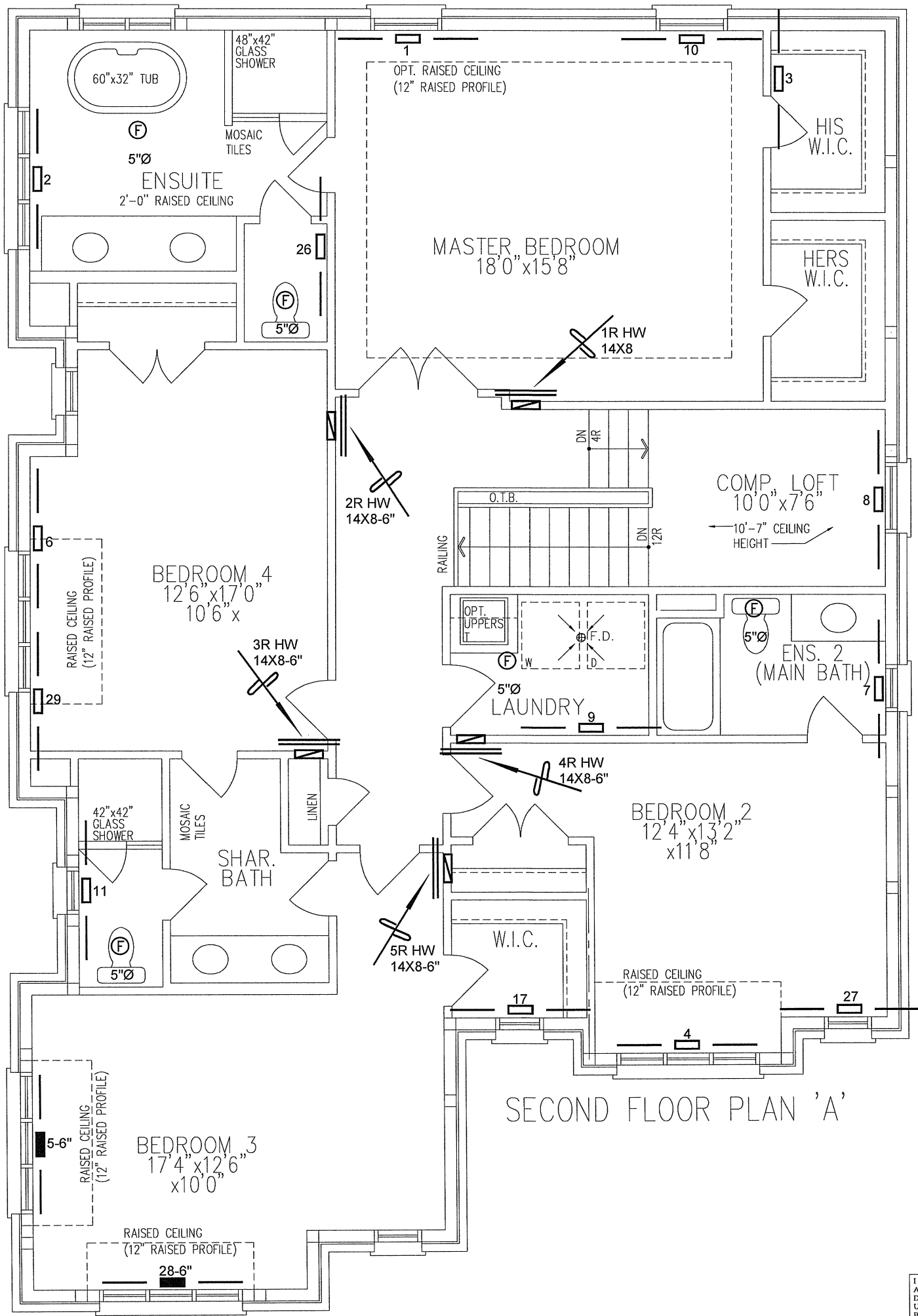
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND						3.		
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. Description Date

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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			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JUNE/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT GROUND 4506			BCIN# 19669	
3348 sqft			LO#	91152



SECOND FLOOR PLAN 'A'

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.

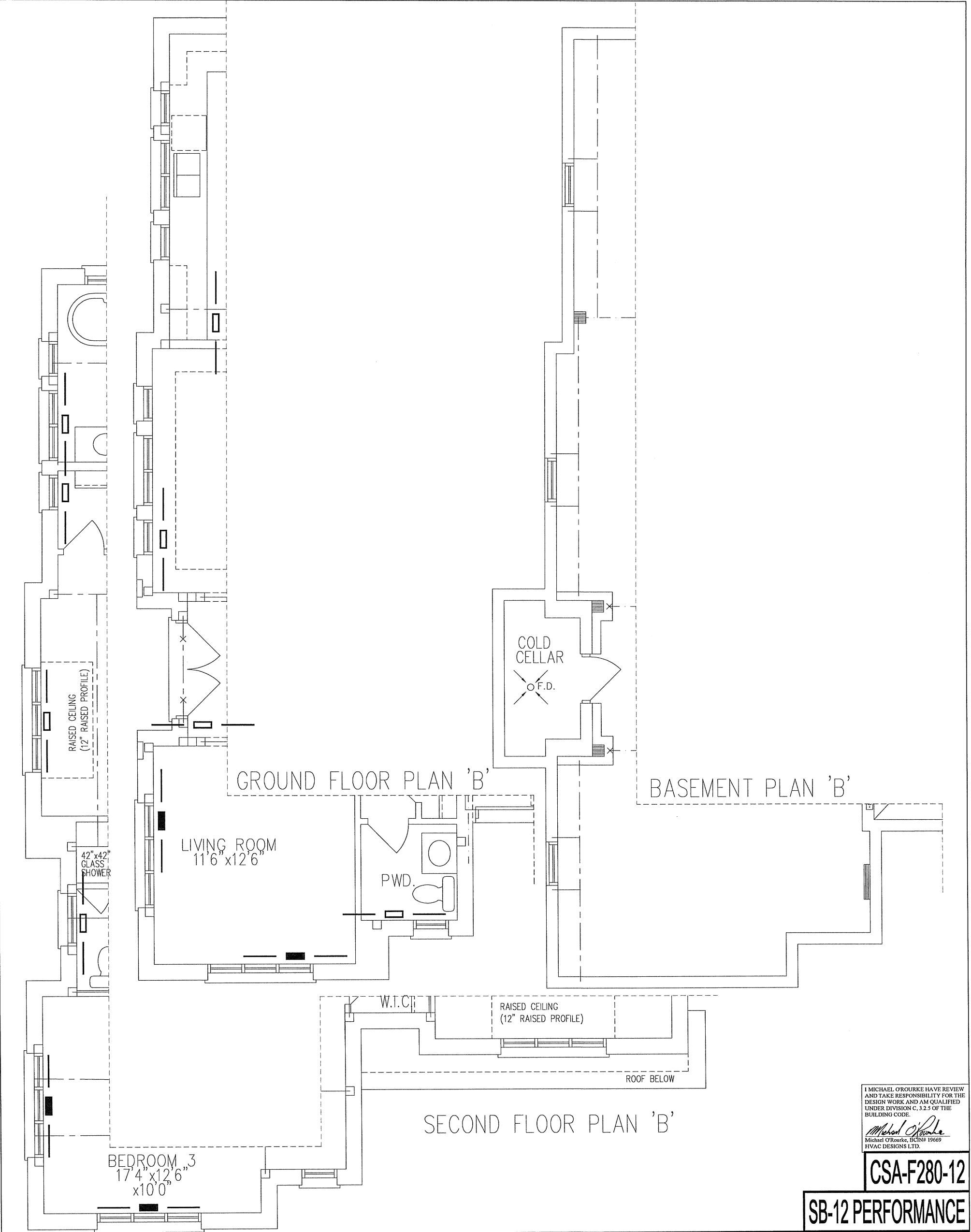
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	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.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	
REVISIONS								
Description								Date

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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date	JUNE/2021
			Scale	3/16" = 1'-0"
OPT GROUND 4506		BCIN# 19669		
3348 sqft		LO#	91152	



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.	
	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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ROYAL PINE HOMES			THIRD FLOOR HEATING LAYOUT	
Project Name			Date	JUNE/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT GROUND 4506			BCIN# 19669	
3348 sqft	LO# 91152			