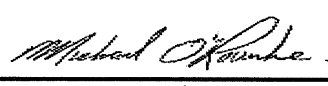


Schedule 1: Designer Information

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@hvacdsgns.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 5 BED 4 BATH 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 10, 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) OPT 5 BED 4 BATH TYPE: 4506 DATE: Jun-21 WINTER NATURAL AIR CHANGE RATE 0.233 HEAT LOSS AT °F. 78 CSA-F280-12
BUILDER: ROYAL PINE HOMES GFA: 3348 L/S# 91163 SUMMER NATURAL AIR CHANGE RATE 0.073 HEAT GAIN AT °F. 13 SB-12 PERFORMANCE

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-3	BED-4	BED-5	BATH	BED-2	BTH-4
GRS.WALL AREA	324	261	54	261	261	423	47	171	81	315	54
GLAZING	0	0	0	0	0	0	0	0	0	0	0
NORTH	21.8	14.9	0	0	0	0	0	0	0	0	0
EAST	21.8	38.4	0	0	0	0	0	0	0	0	0
SOUTH	21.8	23.1	36	196	208	0	0	0	0	0	0
WEST	21.8	38.4	28	610	1075	0	0	0	0	0	0
SKYLT.	35.8	101.2	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	260	1093	180	54	227	37	216	908	1438
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	276	363	162	-5	-7	-3	75	99	44
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2850	1614	2249	543	81	2092	2972	1060	682	2147	609
LEVEL FACTOR / MULTIPLIER	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20
AIR CHANGE HEAT LOSS	527	298	60	498	664	564	144	306	126	397	113
AIR CHANGE HEAT GAIN	109	26	0	319	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	2	480	0	0	0	1	240	1	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	559	559	0	559	559	559	559	559	0	559	0
TOTAL HT LOSS BTU/H	3377	1913	386	3511	4280	4259	5089	1958	808	2544	794
TOTAL HT GAIN x 1.3 BTU/H	4417	740	740	4572	4572	901	684	700	589	2976	306

ROOM USE	EXP. WALL	CLG. HT.	DIN	FAM	KIT	LIV	BTH-3	WIR	FOY	MUD	BAS
GRS.WALL AREA	308	363	671	341	341	341	54	198	165	308	1316
GLAZING	0	0	0	0	0	0	0	0	0	0	0
NORTH	21.8	14.9	0	0	0	0	0	0	0	0	0
EAST	21.8	38.4	0	0	0	0	0	0	0	0	0
SOUTH	21.8	23.1	49	1067	1133	0	0	0	0	0	0
WEST	21.8	38.4	0	0	0	0	0	0	0	0	0
SKYLT.	35.8	101.2	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	259	1089	179	326	1371	226	562	2363	389
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2157	2177	1646	4738	3993	2821	456	1008	1679	1728	9502
SUB TOTAL HT GAIN	1312	1312	1312	1312	1312	1312	1312	1312	1312	1312	1011
LEVEL FACTOR / MULTIPLIER	0.30	0.28	0.30	0.28	0.30	0.28	0.20	0.30	0.30	0.30	0.50
AIR CHANGE HEAT LOSS	614	619	614	1348	838	838	128	287	478	492	7793
AIR CHANGE HEAT GAIN	63	80	0	0	0	0	22	0	21	14	49
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	559	559	559	559	559	559	559	0	559	559
HEAT GAIN APPLIANCES/LIGHTS	559	559	559	559	559	559	559	559	0	559	559
TOTAL HT LOSS BTU/H	2770	2796	6086	6169	3784	4572	901	1295	2156	2220	17295
TOTAL HT GAIN x 1.3 BTU/H	2516	2970	2970	4572	4572	901	684	700	589	1115	2106

TOTAL HEAT GAIN BTU/H: 42509 TONS: 3.54 LOSS DUE TO VENTILATION LOAD BTU/H: 2004

STRUCTURAL HEAT LOSS: 58855

TOTAL COMBINED HEAT LOSS BTU/H: 60859

Michael O'Rourke

SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMESTYPE: 4508
OPT 5 BED 4 BATH
furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

GFA: 3348 LO# 91153

DATE: Jun-21

HEATING CFM 1370 COOLING CFM 1370
TOTAL HEAT LOSS 58,855 TOTAL HEAT GAIN 42,179
AIR FLOW RATE CFM 23.28 AIR FLOW RATE CFM 32.48**CARRIER
59TN6A-080-14V 80
FAN SPEED LOW 1030
MEDIUM 1370
HIGH 1800
AFUE = 97 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 78,000
DESIGN CFM = 1370
CFM @ .5" E.S.P.

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	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	MBR	WIC	BED-3	BED-4	ENS	BATH	BATH	BED-2	BTH-4	DIN	FAM	KIT	KIT	LIV	BTH-3	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.69	1.69	0.39	1.76	2.13	1.91	0.40	0.40	2.54	0.79	2.77	2.80	2.03	2.03	1.89	0.90	1.30	2.16	2.22	3.46	3.46	3.46	3.46
CFM PER RUN HEAT	39	39	9	41	50	45	9	9	59	18	64	65	47	47	44	21	30	50	52	81	81	81	81
RM GAIN MBH	2.21	2.21	0.11	2.14	2.54	0.74	0.18	0.18	2.98	0.31	2.52	2.97	2.06	2.06	2.29	0.68	0.70	0.59	1.11	0.42	0.42	0.42	0.42
CFM PER RUN COOLING	72	72	4	70	83	24	6	6	97	10	82	96	67	67	74	22	23	19	36	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	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	42	60	54	48	82	52	25	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	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	225	178	199	246	179	154	187	182	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	0.08	0.07	0.09	0.11	0.09	0.11	0.11	0.08	0.07	0.08	0.14	0.09	0.1	0.11	0.09
ROUND DUCT SIZE	6	6	4	5	6	5	4	4	6	4	6	6	5	5	6	4	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	199	199	103	301	255	330	103	103	301	207	326	331	345	345	224	241	344	367	597	413	413	413	413
COOLING VELOCITY (ft/min)	367	367	46	514	423	176	69	69	495	115	418	489	492	492	377	252	264	140	413	71	71	71	71
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	B	C	D	A	B	D	D	C	A	B	D	B	C	A	D	A	A	D	B	C	C	B

RUN #	25	27	28	29	30	31
ROOM NAME	BAS	BED-3	BED-4	BED-5	KIT	LIV
RM LOSS MBH	3.46	1.76	2.13	1.96	2.03	1.89
CFM PER RUN HEAT	81	41	50	46	47	44
RM GAIN MBH	0.42	2.14	2.54	2.48	2.06	2.29
CFM PER RUN COOLING	14	70	83	81	67	74
ADJUSTED PRESSURE	0.16	0.17	0.16	0.16	0.17	0.17
ACTUAL DUCT LGH	68	39	79	66	34	67
EQUIVALENT LENGTH	150	180	210	220	130	160
TOTAL EFFECTIVE LENGTH	218	219	289	286	164	227
ADJUSTED PRESSURE	0.07	0.08	0.06	0.06	0.1	0.08
ROUND DUCT SIZE	6	5	6	6	5	6
HEATING VELOCITY (ft/min)	413	301	255	235	345	224
COOLING VELOCITY (ft/min)	71	514	423	413	492	377
OUTLET GRILL SIZE	4X10	3X10	4X10	4X10	3X10	4X10
TRUNK	A	D	A	A	B	A

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE										
TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	
TRUNK A	413	0.06	10.8	8	531	TRUNK G	0	0.00	0	0	0.00	0	0	8	TRUNK O	0	0.05	0	0	8
TRUNK B	404	0.07	10.3	8	606	TRUNK H	0	0.00	0	0	0.00	0	0	8	TRUNK P	0	0.05	0	0	8
TRUNK C	1133	0.06	15.8	8	728	TRUNK I	0	0.00	0	0	0.00	0	0	8	TRUNK Q	0	0.05	0	0	8
TRUNK D	1371	0.06	17	10	759	TRUNK J	0	0.00	0	0	0.00	0	0	8	TRUNK R	0	0.05	0	0	8
TRUNK E	0	0.00	0	8	0	TRUNK K	0	0.00	0	0	0.00	0	0	8	TRUNK S	0	0.05	0	0	8
TRUNK F	0	0.00	0	8	0	TRUNK L	0	0.00	0	0	0.00	0	0	8	TRUNK T	0	0.05	0	0	8
															TRUNK U	0	0.05	0	0	8
															TRUNK V	0	0.05	0	0	8
															TRUNK W	155	0.05	7.8	8	349
															TRUNK X	1370	0.05	17.7	30	658
															TRUNK Y	915	0.05	15.3	28	588
															TRUNK Z	560	0.05	12.7	18	580
															DROP	1370	0.05	17.7	24	685
RETURN AIR #																				
AIR VOLUME	175	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	BR
PLENUM PRESSURE	42	52	67	60	66	27	40	27	40	27	40	27	40	27	40	27	40	27	40	190
EQUIVALENT LENGTH	185	235	165	195	155	145	240	170	0	0	0	0	0	0	0	0	0	0	0	14
TOTAL EFFECTIVE LH	227	287	232	255	221	172	280	232	1	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.07	0.05	0.06	0.06	0.07	0.09	0.05	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	14.80
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	0.10
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7.1
	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	14	14	14	14	14	14	14	14	14	14	14	14	14	14

TYPE: 4506
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 91153
OPT 5 BED 4 BATH

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	5 @ 10.6 cfm	53.0 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
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
BTH-4	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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	June-21

Specializing in Residential Mechanical Design Services

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4506	OPT 5 BED 4 BATH	BUILDER: ROYAL PINE HOMES
SFQT: 3348	LO# 91153	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):	48096.0	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:	7.0 ft
LENGTH: 56.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	188.0 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%	-

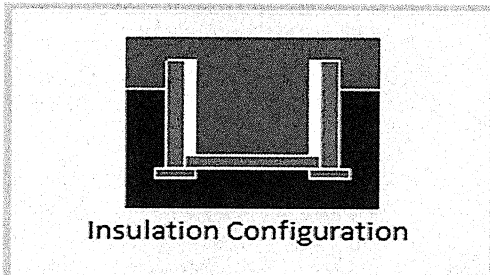
INDIVIDUAL BCIN: 19669

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):	17.1	 Insulation Configuration
Floor Width (m):	11.6	
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):		1896

TYPE: 4506
LO# 91153

OPT 5 BED 4 BATH

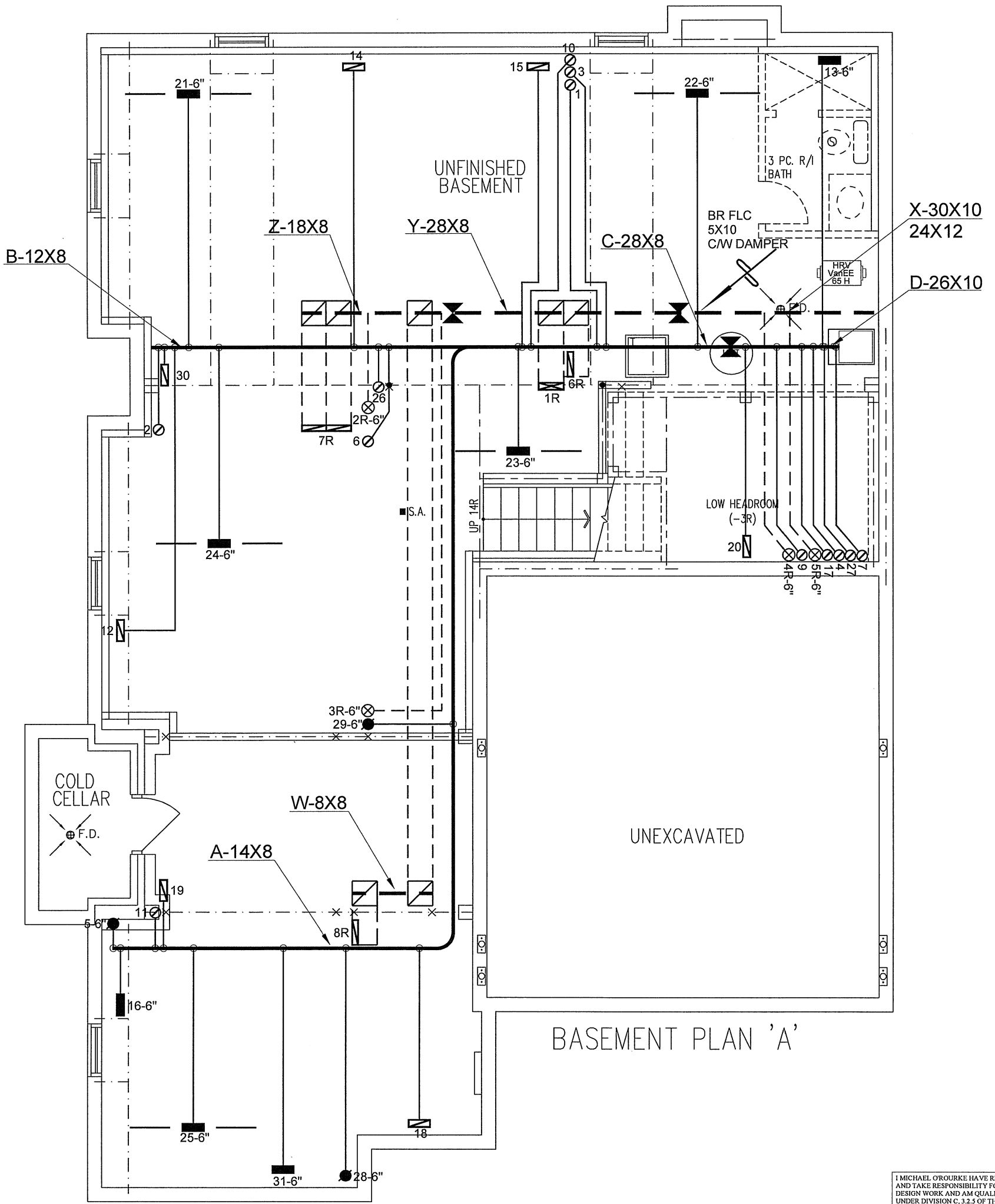
Air Infiltration Residential Load Calculator

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):	1361.9			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1271.4 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: 4506
LO# 91153

OPT 5 BED 4 BATH



BASEMENT PLAN 'A'

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.

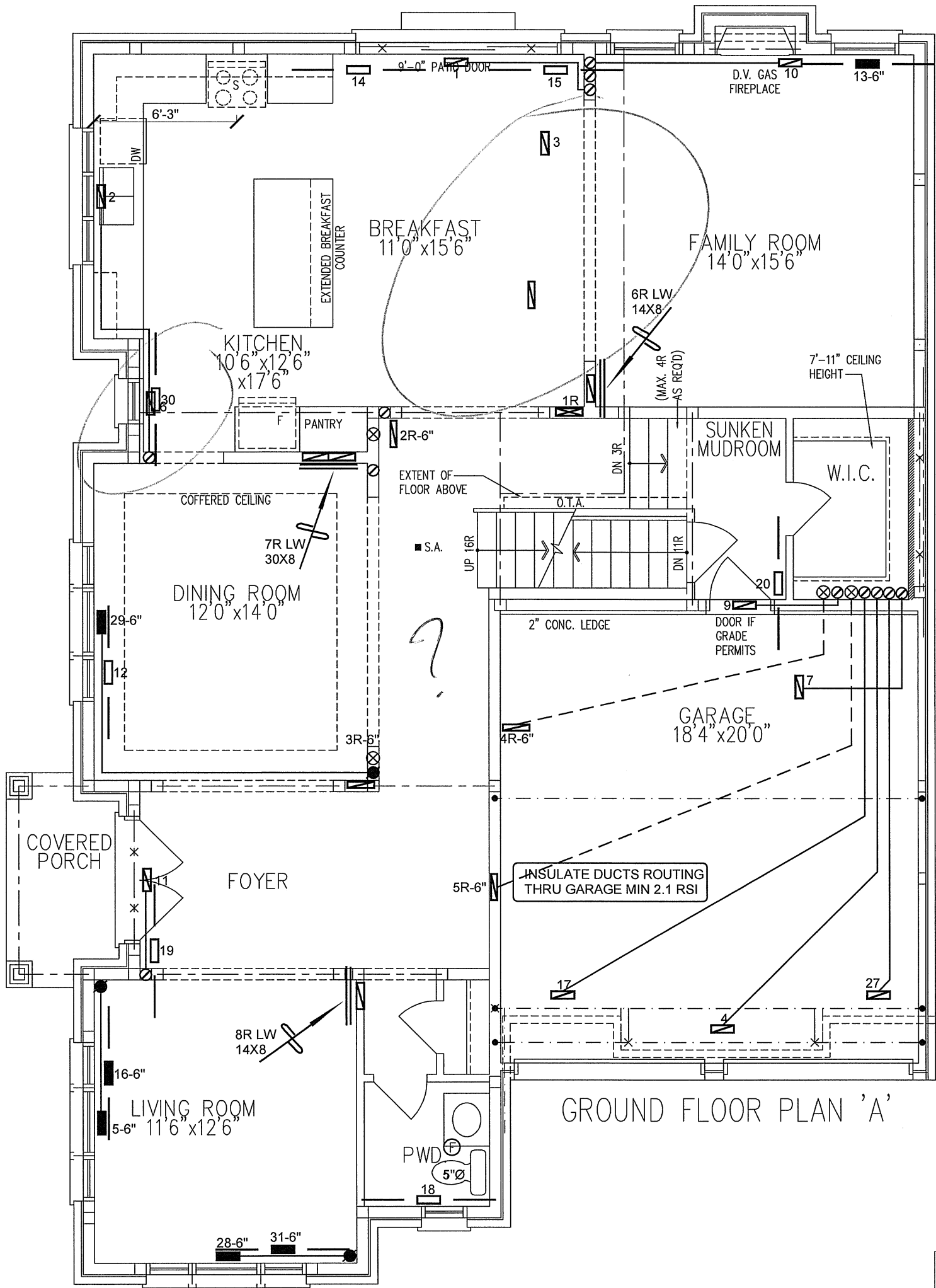
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	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
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 60859 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title					
ROYAL PINE HOMES		MAKE CARRIER	MODEL 59TN6A-080-14V	INPUT 80 MBTU/H	OUTPUT 78 MBTU/H	COOLING 3.5 TONS	FAN SPEED 1370 cfm @ 0.6" w.c.	3RD FLOOR			BASEMENT HEATING LAYOUT		
Project Name								2ND FLOOR	14	5		4	
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO								1ST FLOOR	10	3		2	
								BASEMENT	5	1	0	Date	JUNE/2021
												Scale	3/16" = 1'-0"
												BCIN# 19669	
OPT 5 BED 4 BATH 4506 3348 sqft											LO#	91153	



GROUND FLOOR PLAN 'A'

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.

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

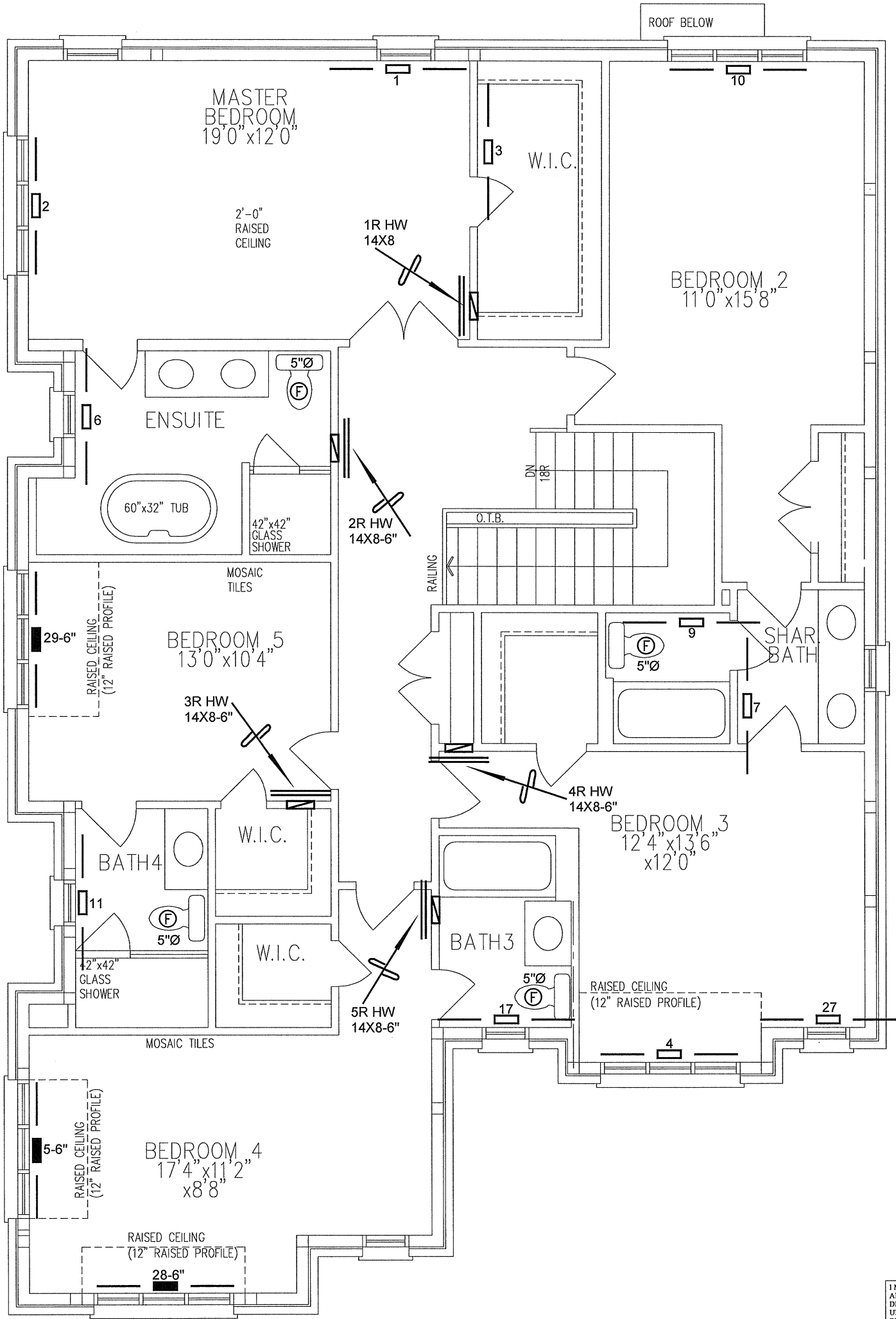
CSA-F280-12

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.
REVISIONS								Date

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ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date	JUNE/2021
OPT 5 BED 4 BATH 4506 3348 sqft		Scale	3/16" = 1'-0"	
		BCIN# 19669		
		LO#	91153	



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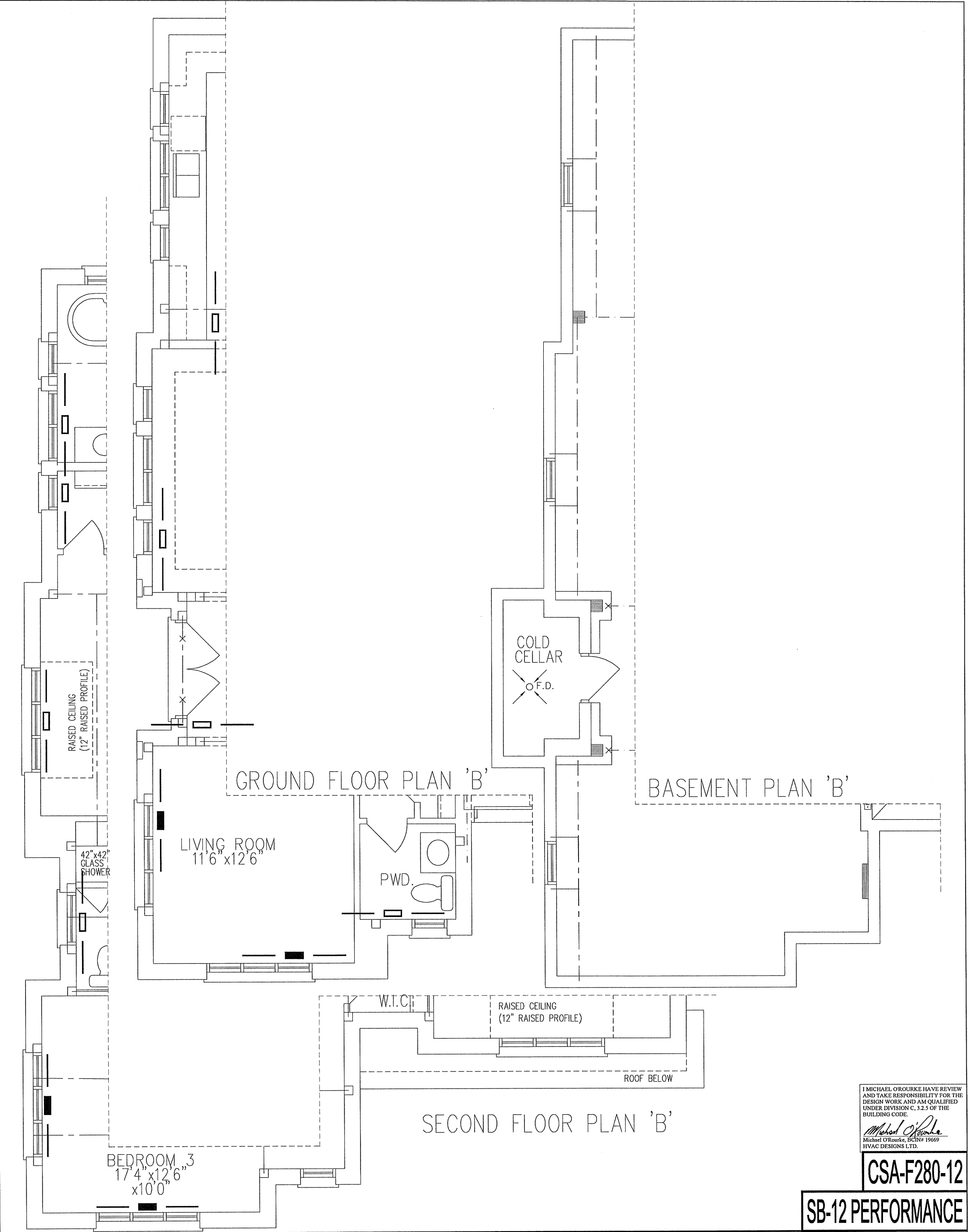
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND							3.		
	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
							REVISIONS		Date

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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JUNE/2021
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT 5 BED 4 BATH 4506			BCIN# 19669	
3348 sqft			LO#	91153



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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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 THIRD FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date JUNE/2021	
OPT 5 BED 4 BATH 4506			Scale 3/16" = 1'-0"	
3348 sqft			BCIN# 19669	
			LO# 91153	