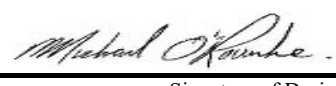


Schedule 1: Designer Information

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.
Municipality BRAMPTON			Postal code
Plan number/ other description			Lot/con.
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: 7003 Project: VALES OF HUMBER SOUTH	
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.			
July 9, 2024			
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: VALES OF HUMBER SOUTH										DATE Jul-24		WINTER NATURAL AIR CHANGE RATE 0.241								HEAT LOSS AT °F. 74		CSA-F280-12					
BUILDER: ROYAL PINE HOMES										TYPE: 7003		GFA: 6169		LO# 95348		SUMMER NATURAL AIR CHANGE RATE 0.078								HEAT GAIN AT °F. 11		SB-12 PERFORMANCE	
ROOM USE		GREAT		KIT		DIN		LIV		FOY		LIBR		PWD-1		MUD		LAUN									
EXP. WALL		52		59		19		40		13		29		9		32		7									
CLG. HT.		11		11		21		11		11		11		11		11		11									
FACTORS																											
GRS.WALL AREA		572		649		399		440		143		319		99		352		77									
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN									
NORTH		20.8	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
EAST		20.8	41.0	0	0	0	0	0	0	0	0	0	24	499	985	41	852	1683	0	0	0	0					
SOUTH		20.8	24.4	0	0	0	0	0	0	86	1787	2098	8	166	195	0	0	0	0	0	0	0					
WEST		20.8	41.0	102	2119	4187	100	2078	4105	0	0	0	0	0	0	0	0	0	0	0	0	0					
SKYLT.		34.1	100.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
DOORS		24.7	3.7	0	0	0	0	0	0	0	0	0	22	542	80	0	0	0	0	0	0	0					
NET EXPOSED WALL		3.5	0.5	470	1630	242	549	1904	282	313	1085	161	391	1356	201	97	336	50	278	964	143	99					
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
EXPOSED CLG		1.3	0.6	0	0	0	0	0	0	285	357	159	0	0	0	0	0	0	0	0	0	0					
NO ATTIC EXPOSED CLG		2.7	1.2	10	27	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
EXPOSED FLOOR		2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
BASEMENT/CRAWL HEAT LOSS				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					
SUBTOTAL HT LOSS				3776		3981		3229		2374		1377		1816		343		1644		267							
SUB TOTAL HT GAIN				4440		4387		2418		2079		1115		1826		51		244		40							
LEVEL FACTOR / MULTIPLIER		0.30	0.49			0.30	0.49			0.30	0.49			0.30	0.49			0.30	0.49								
AIR CHANGE HEAT LOSS				1832		1932		1567		1152		668		881		167		798		130							
AIR CHANGE HEAT GAIN				221		218		120		103		55		91		3		12		2							
DUCT LOSS				0		0		0		0		0		0		0		0		0							
DUCT GAIN				0		0		0		0		0		0		0		0		0							
HEAT GAIN PEOPLE		240	0	0		0		0		0		0		0		0		0		0							
HEAT GAIN APPLIANCES/LIGHTS				1064		1064		1064		1064		1064		1064		0		1064									
TOTAL HT LOSS BTU/H				5608		5913		4796		3525		2046		2697		510		2442		397							
TOTAL HT GAIN x 1.3 BTU/H				7443		7370		4683		4221		1522		3875		69		333		1437							

ROOM USE		GREAT		KIT		DIN		LIV		FOY		LIBR		PWD-1		MUD		LAUN	
EXP. WALL		52		59		19		40		13		29		9		32		7	
CLG. HT.		11		11		21		11		11		11		11		11		11	
FACTORS																			
GRS.WALL AREA		572		649		399		440		143		319		99		352		77	
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
NORTH		20.8	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST		20.8	41.0	0	0	0	0	0	0	41	852	1683	24	499	985	41	852	1683	0
SOUTH		20.8	24.4	0	0	0	0	0	0	86	1787	2098	8	166	195	0	0	0	0
WEST		20.8	41.0	102	2119	4187	100	2078	4105	0	0	0	0	0	0	0	0	0	0
SKYLT.		34.1	100.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS		24.7	3.7	0	0	0	0	0	0	0	0	0	0	0	0	20	493	73	0
NET EXPOSED WALL		3.5	0.5	470	1630	242	549	1904	282	313	1085	161	391	1356	201	97	336	50	278
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG		1.3	0.6	0	0	0	0	0	0	285	357	159	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG		2.7	1.2	10	27	12	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR		2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0
SUBTOTAL HT LOSS				3776			3981			3229			2374			1377			1816
SUB TOTAL HT GAIN					4440			4387			2418			1115			1826		51
LEVEL FACTOR / MULTIPLIER		0.30	0.49			0.30	0.49			0.30	0.49		0.30	0.49		0.30	0.49		0.30
AIR CHANGE HEAT LOSS				1832			1932			1567			1152			668			881
AIR CHANGE HEAT GAIN					221			218			120			103			55		91
DUCT LOSS				0			0			0			0			0			0
DUCT GAIN				0			0			0			0			0			0
HEAT GAIN PEOPLE		240		0		0		0		0		0		0		0		0	0
HEAT GAIN APPLIANCES/LIGHTS				1064			1064			1064			1064			1064			1064
TOTAL HT LOSS BTU/H				5608			5913			4796			3525			2046			2697
TOTAL HT GAIN x 1.3 BTU/H				7443			7370			4683			4221			1522			3875

TOTAL HEAT GAIN BTU/H: 72437 TONS: 6.04 LOSS DUE TO VENTILATION LOAD BTU/H: 6010 STRUCTURAL HEAT LOSS: 88565 TOTAL COMBINED HEAT LOSS BTU/H: 94575

SITE NAME: VALES OF HUMBER SOUTH												DATE Jul-24		WINTER NATURAL AIR CHANGE RATE 0.241										HEAT LOSS ΔT °F. 74		CSA-F280-1					
BUILDER: ROYAL PINE HOMES												TYPE: 7003		GFA: 6169		LO# 95348		SUMMER NATURAL AIR CHANGE RATE 0.078										HEAT GAIN ΔT °F. 11		SB-12 PERFORMANCE	
ROOM USE		PR/ST		ENS		WIC-1		WIC-2		BED-2		BED-3		BED-4		BED-5		ENS-2		ENS-3											
EXP. WALL		59		34		8		0		14		24		14		51		12		0											
CLG. HT.		11		10		10		10		10		10		10		11		10		10											
FACTORS																															
GRS.WALL AREA		LOSS GAIN		649		340		80		0		140		240		140		561		120		0									
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN									
NORTH		20.8	15.5	0	0	0	28	582	433	0	0	0	0	0	0	24	499	371	0	0	0	0	0	0	0						
EAST		20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	32	665	1314	40	831	1642	84	1745	3448	0	0						
SOUTH		20.8	24.4	8	166	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WEST		20.8	41.0	96	1994	3941	40	831	1642	0	0	0	0	0	0	0	0	0	0	0	0	0	16	332	657						
SKYLT.		34.1	100.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
DOORS		24.7	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	222	33	0	0	0	0	0						
NET EXPOSED WALL		3.5	0.5	545	1890	280	272	943	140	80	277	41	0	0	0	116	402	60	184	638	95	100	347	51	468	1623					
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
EXPOSED CLG		1.3	0.6	1199	1502	668	288	361	160	88	110	49	176	221	98	350	439	195	350	439	195	346	434	193	420	526					
NO ATTIC EXPOSED CLG		2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	263	117	0						
EXPOSED FLOOR		2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	150	373	55	250	622	92	100	249	37	200	498					
BASEMENT/CRAWL HEAT LOSS																															
SLAB ON GRADE HEAT LOSS																															
SUBTOTAL HT LOSS				5553		2717		388		221		1713		2862		1860		4877		940		113									
SUB TOTAL HT GAIN				5084		2375		90		98		681		2067		1923		4146		776		50									
LEVEL FACTOR / MULTIPLIER		0.20	0.24			0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24						
AIR CHANGE HEAT LOSS				1344		657		94		53		414		693		450		1180		228		27									
AIR CHANGE HEAT GAIN				253		118		4		5		34		103		96		206		39		2									
DUCT LOSS				0		0		0		0		213		356		231		606		117		0									
DUCT GAIN				0		0		0		0		202		347		332		566		81		0									
HEAT GAIN PEOPLE		240	2	480	0	0	0	0	0	0	0	1	240	1	240	1	240	1	240	0	0	0	0	0	0						
HEAT GAIN APPLIANCES/LIGHTS				1064		0		0		0		1064		1064		1064		1064		0		0									
TOTAL HT LOSS BTU/H				6896		3374		481		274		2340		3911		2541		6663		1284		140									
TOTAL HT GAIN x 1.3 BTU/H				8945		3241		123		134		2888		4967		4752		8089		1165		68									

ROOM USE			ENS-4			ENS-5			WIC-3									
EXP. WALL			20			7			19									
CLG. HT.			11			10			10									
FACTORS																		
GRS.WALL AREA			220			70			190									
GLAZING			LOSS GAIN			LOSS GAIN			LOSS GAIN									
NORTH			20.8	15.5	0	0	0	0	0	0	0	0						
EAST			20.8	41.0	51	1060	2093	0	0	0	14	291	575					
SOUTH			20.8	24.4	0	0	0	8	166	195	0	0	0					
WEST			20.8	41.0	0	0	0	0	0	0	0	0	0					
SKYLT.			34.1	100.3	0	0	0	0	0	0	0	0	0					
DOORS			24.7	3.7	0	0	0	0	0	0	0	0	0					
NET EXPOSED WALL			3.5	0.5	169	586	87	62	215	32	176	610	90					
NET EXPOSED BSMT WALL ABOVE GR			3.5	0.5	0	0	0	0	0	0	0	0	0					
EXPOSED CLG			1.3	0.6	106	133	59	105	132	59	90	113	50					
NO ATTIC EXPOSED CLG			2.7	1.2	20	54	24	0	0	0	0	0	0					
EXPOSED FLOOR			2.5	0.4	126	314	47	0	0	0	90	224	33					
BASEMENT/CRAWL HEAT LOSS					0			0			0							
SLAB ON GRADE HEAT LOSS					0			0			0							
SUBTOTAL HT LOSS					2146			513			1238							
SUB TOTAL HT GAIN					2310			286			749							
LEVEL FACTOR / MULTIPLIER			0.20	0.24				0.20	0.24		0.20	0.24						
AIR CHANGE HEAT LOSS					519			124			300							
AIR CHANGE HEAT GAIN						115			14			37						
DUCT LOSS					267			0			154							
DUCT GAIN						242			0			79						
HEAT GAIN PEOPLE			240		0		0		0	0		0						
HEAT GAIN APPLIANCES/LIGHTS					0				0			0						
TOTAL HT LOSS BTU/H					2932			637			1691							
TOTAL HT GAIN x 1.3 BTU/H					3467			390			1124							

TOTAL HEAT GAIN BTU/H: 72437

TONS: 6.04

LOSS DUE TO VENTILATION LOAD BTU/H: 6010

STRUCTURAL HEAT LOSS: 88565

TOTAL COMBINED HEAT LOSS BTU/H: 94575

SITE NAME: VALES OF HUMBER SOUTH
BUILDER: ROYAL PINE HOMES

TYPE: 7003

DATE: Jul-24

GFA: 6169

LO# 95348

FURNACE 1

HEATING CFM 1105
TOTAL HEAT LOSS 55,400
AIR FLOW RATE CFM 19.95
COOLING CFM 1105
TOTAL HEAT GAIN 32,640
AIR FLOW RATE CFM 33.85

FACTORY
INSTALLED
furnace pressure 0.6
furnace filter 0.00
a/c coil pressure 0.25
available pressure for s/a & r/a 0.35

FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 58405 BTUH
CARRIER
59SC6A080M17--16
CARRIER
80
FAN SPEED LOW 0
MEDLOW 1105
MEDIUM 1265
MEDIUM HIGH 0
HIGH 0

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

DESIGN CFM = **1105**
CFM @ .6" E.S.P.

TEMPERATURE RISE 65 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	20	9
R/A	0	0	0	5	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	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	DIN	LIV	LIV	LIV	FOY	LIBR	LIBR	PWD-1	MUD	LAUN	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.40	1.40	1.40	1.40	1.48	1.48	1.48	1.48	1.60	1.60	1.60	1.18	1.18	1.18	2.05	1.35	1.35	0.51	2.44	0.40	3.05	3.05	3.05	3.05
CFM PER RUN HEAT	28	28	28	28	29	29	29	29	32	32	32	23	23	23	41	27	27	10	49	8	61	61	61	61
RM GAIN MBH.	1.86	1.86	1.86	1.86	1.84	1.84	1.84	1.84	1.56	1.56	1.56	1.41	1.41	1.41	1.52	1.94	1.94	0.07	0.33	1.44	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	63	63	63	63	62	62	62	62	53	53	53	48	48	48	52	66	66	2	11	49	6	6	6	6
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	0.17	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.	47	40	36	30	24	24	24	36	37	33	39	60	57	54	53	68	72	58	48	42	31	18	33	43
EQUIVALENT LENGTH	100	130	90	120	130	120	130	120	170	130	110	140	130	130	170	190	190	120	140	130	100	130	110	120
TOTAL EFFECTIVE LENGTH	147	170	126	150	154	144	154	156	207	163	149	200	187	184	223	258	262	178	188	172	131	148	143	163
ADJUSTED PRESSURE	0.12	0.1	0.14	0.11	0.11	0.12	0.11	0.11	0.08	0.11	0.12	0.09	0.09	0.09	0.08	0.07	0.07	0.1	0.09	0.1	0.13	0.12	0.12	0.11
ROUND DUCT SIZE	5	5	4	5	5	5	5	5	4	4	5	5	5	5	5	6	6	4	4	4	4	5	5	5
HEATING VELOCITY (ft/min)	206	206	321	206	213	213	213	213	235	367	367	169	169	169	301	138	138	115	562	92	700	448	448	448
COOLING VELOCITY (ft/min)	463	463	723	463	455	455	455	455	389	608	608	352	352	352	382	337	337	23	126	562	69	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	B	C	C	C	F	F	F	E	E	E	E	E	E	F	A	A	C	C	B	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	3.05	3.05	3.05	3.05	3.05
CFM PER RUN HEAT	61	61	61	61	61
RM GAIN MBH.	0.19	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	6	6	6	6	6
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	33	38	42	53	65
EQUIVALENT LENGTH	180	130	100	150	180
TOTAL EFFECTIVE LENGTH	213	168	142	203	245
ADJUSTED PRESSURE	0.08	0.1	0.12	0.08	0.07
ROUND DUCT SIZE	5	5	5	5	5
HEATING VELOCITY (ft/min)	448	448	448	448	448
COOLING VELOCITY (ft/min)	44	44	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	F	F	B	E	E

SUPPLY AIR TRUNK SIZE										RETURN 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	174	0.09	7.1	8	x	8	392	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0
	TRUNK B	381	0.09	9.5	12	x	8	572	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0
	TRUNK C	209	0.11	7.2	8	x	8	470	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0
	TRUNK D	590	0.09	11.2	18	x	8	590	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0
	TRUNK E	286	0.07	9.1	12	x	8	429	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0
	TRUNK F	514	0.07	11.3	16	x	8	578	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	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	150	310	130	130	120	0	0	0	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.	44	30	20	58	71	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	160	145	145	195	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	204	175	165	253	271	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.08	0.09	0.06	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.1	9	6.3	7	7.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	0	0	0	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	30	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE NAME: VALES OF HUMBER SOUTH
BUILDER: ROYAL PINE HOMES

TYPE: 7003

DATE: Jul-24

GFA: 6169

LO# 95348

FURNACE 2

HEATING CFM 1300 COOLING CFM 1300
TOTAL HEAT LOSS 33,165 TOTAL HEAT GAIN 39,352
AIR FLOW RATE CFM 39.2 AIR FLOW RATE CFM 33.04

FACTORY furnace pressure 0.6
INSTALLED furnace filter 0.00
a/c coil pressure 0.29
available pressure
for s/a & r/a 0.31

FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 36170 BTUH
CARRIER
59SC6A060M17--16
FAN SPEED
LOW 0
MEDLOW 790
MEDIUM 975
MEDIUM HIGH 1140
HIGH 1300

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

DESIGN CFM = **1300**
CFM @ .6" E.S.P.

TEMPERATURE RISE 41 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	27	0	0
R/A	0	0	7	0	0

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	PR/ST	PR/ST	PR/ST	PR/ST	ENS	ENS	ENS	WIC-1	WIC-2	BED-2	BED-2	ENS-2	BED-3	BED-3	BED-3	ENS-3	WIC-3	BED-4	BED-4	BED-4	ENS-4	ENS-4	BED-5	BED-5
RM LOSS MBH.	1.72	1.72	1.72	1.72	1.12	1.12	1.12	0.48	0.27	1.17	1.17	1.28	1.30	1.30	1.30	0.14	1.69	0.85	0.85	0.85	1.47	1.47	1.67	1.67
CFM PER RUN HEAT	68	68	68	68	44	44	44	19	11	46	46	50	51	51	51	5	66	33	33	33	57	57	65	65
RM GAIN MBH.	2.24	2.24	2.24	2.24	1.08	1.08	1.08	0.12	0.13	1.44	1.44	1.16	1.66	1.66	1.66	0.07	1.12	1.58	1.58	1.58	1.73	1.73	2.02	2.02
CFM PER RUN COOLING	74	74	74	74	36	36	36	4	4	48	48	38	55	55	55	2	37	52	52	52	57	57	67	67
ADJUSTED 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.	68	73	45	41	47	52	47	37	30	53	61	43	96	96	98	76	100	84	88	92	86	96	79	75
EQUIVALENT LENGTH	200	200	190	190	110	160	140	130	120	150	160	160	150	140	180	160	160	200	210	220	140	150	160	160
TOTAL EFFECTIVE LENGTH	268	273	235	231	157	212	187	167	150	203	221	203	246	236	278	236	260	284	298	312	226	246	239	235
ADJUSTED PRESSURE	0.06	0.06	0.06	0.07	0.1	0.07	0.08	0.09	0.1	0.07	0.07	0.07	0.06	0.06	0.05	0.06	0.06	0.05	0.05	0.05	0.07	0.06	0.06	0.06
ROUND DUCT SIZE	6	6	6	6	5	5	5	4	4	6	6	5	6	6	6	4	6	6	6	6	5	5	6	6
HEATING VELOCITY (ft/min)	347	347	347	347	323	323	323	218	126	235	235	367	260	260	260	57	337	168	168	168	419	419	331	331
COOLING VELOCITY (ft/min)	377	377	377	377	264	264	264	46	46	245	245	279	280	280	280	23	189	265	265	265	419	419	342	342
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10
TRUNK	C	C	E	E	E	D	D	E	E	D	D	D	C	C	B	C	B	A	A	A	B	B	A	A

RUN #	25	26	27
ROOM NAME	BED-5	BED-5	ENS-5
RM LOSS MBH.	1.67	1.67	0.64
CFM PER RUN HEAT	65	65	25
RM GAIN MBH.	2.02	2.02	0.39
CFM PER RUN COOLING	67	67	13
ADJUSTED PRESSURE	0.15	0.15	0.15
ACTUAL DUCT LGH.	69	73	60
EQUIVALENT LENGTH	180	180	160
TOTAL EFFECTIVE LENGTH	249	253	220
ADJUSTED PRESSURE	0.06	0.06	0.07
ROUND DUCT SIZE	6	6	4
HEATING VELOCITY (ft/min)	331	331	287
COOLING VELOCITY (ft/min)	342	342	149
OUTLET GRILL SIZE	4X10	4X10	3X10
TRUNK	A	A	C

SUPPLY AIR TRUNK SIZE														RETURN 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	359	0.05	10.7	16	x	8	404	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0				
TRUNK B	590	0.05	12.9	20	x	8	531	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0				
TRUNK C	858	0.05	14.9	26	x	8	594	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0				
TRUNK D	230	0.07	8.4	8	x	8	518	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0				
TRUNK E	440	0.06	11.1	14	x	8	566	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0				
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	0				

RETURN AIR #	1	2	3	4	5	6	7											BR							
AIR VOLUME	240	115	210	115	210	210	200	0	0	0	0	0	0	0	0	0	0	TRUNK V	0	0.05	0	0	x	8	0
PLENUM PRESSURE	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	TRUNK W	315	0.05	10.2	12	x	8	473
ACTUAL DUCT LGH.	45	69	105	103	106	91	53	1	1	1	1	1	1	1	1	1	1	TRUNK X	985	0.05	15.7	28	x	8	633
EQUIVALENT LENGTH	165	190	180	175	180	185	185	0	0	0	0	0	0	0	0	0	0	TRUNK Y	745	0.05	14.1	24	x	8	559
TOTAL EFFECTIVE LH	210	259	285	278	286	276	238	1	1	1	1	1	1	1	1	1	1	TRUNK Z	325	0.05	10.4	12	x	8	488
ADJUSTED PRESSURE	0.06	0.05	0.05	0.05	0.05	0.05	0.05	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88	DROP	1300	0.05	17.4	24	x	14	557
ROUND DUCT SIZE	8.8	7	8.8	7	8.8	8.8	8.6	0	0	0	0	0	0	0	0	0	0								
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0								
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
INLET GRILL SIZE	30	14	30	14	30	30	30	0	0	0	0	0	0	0	0	0	0								

TYPE: 7003
SITE NAME: VALES OF HUMBER SOUTH

LO # 95348

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>8</u> @ 10.6 cfm	<u>84.8</u> cfm
Other Rooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>233.2</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	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>233.2</u>	cfm
Less Principal Ventil. Capacity	<u>150</u>	cfm
Required Supplemental Capacity	<u>83.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>150.0</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
150.0 CFM	X 74 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-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H	INSTALL 2 HRV / ERV's	
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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:	July-24

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.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 95348		Model: 7003		Builder: ROYAL PINE HOMES																																																								
				Date: 7/9/2024																																																								
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>2783</td><td>10</td><td>27830</td></tr> <tr><td>First</td><td>2783</td><td>11</td><td>30613</td></tr> <tr><td>Second</td><td>3651</td><td>10</td><td>36510</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>94,953.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2688.8 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2783	10	27830	First	2783	11	30613	Second	3651	10	36510	Third	0	9	0	Fourth	0	9	0	Total:			94,953.0 ft³	Total:			2688.8 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.241</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.078</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.241	SUMMER NATURAL AIR CHANGE RATE	0.078	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.241 x 746.88 x 41 °C x 1.2 = 8915 W = 30417 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.078 x 746.88 x 6 °C x 1.2 = 430 W = 1466 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ 300 CFM x 74 °F x 1.08 x 0.25 = 6010 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 300 CFM x 11 °F x 1.08 x 0.25 = 891 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level \ Factor \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5" style="text-align: center; vertical-align: middle;">30,417</td><td>12,259</td><td>1.241</td></tr> <tr><td>2</td><td>0.3</td><td>18,807</td><td>0.485</td></tr> <tr><td>3</td><td>0.2</td><td>25,139</td><td>0.242</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> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	30,417	12,259	1.241	2	0.3	18,807	0.485	3	0.2	25,139	0.242	4	0	0	0.000	5	0	0	0.000																														
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				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 7003	BUILDER: ROYAL PINE HOMES
SFQT: 6169	SITE: VALES OF HUMBER SOUTH
LO# 95348	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.60

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):	94953.0	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: 64.0 ft	WIDTH: 57.0 ft	EXPOSED PERIMETER:	242.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
SB-12 PERFORMANCE****Nominal Min. Eff.**

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	21.40
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	0.9	-

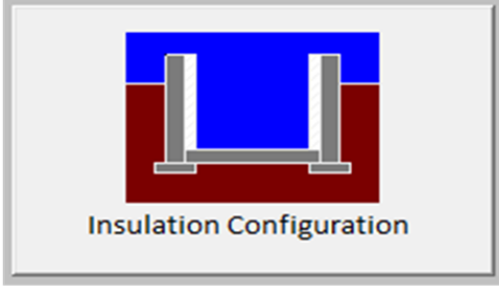
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	19.5	
Floor Width (m):	17.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	2.2	
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):		2554

TYPE: 7003

LO# 95348

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Brampton			
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):	7.32			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	2688.8			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2510.0 cm ²		
	2.50	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	70.8	70.8		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.241			
Cooling Air Leakage Rate (ACH/H):	0.078			

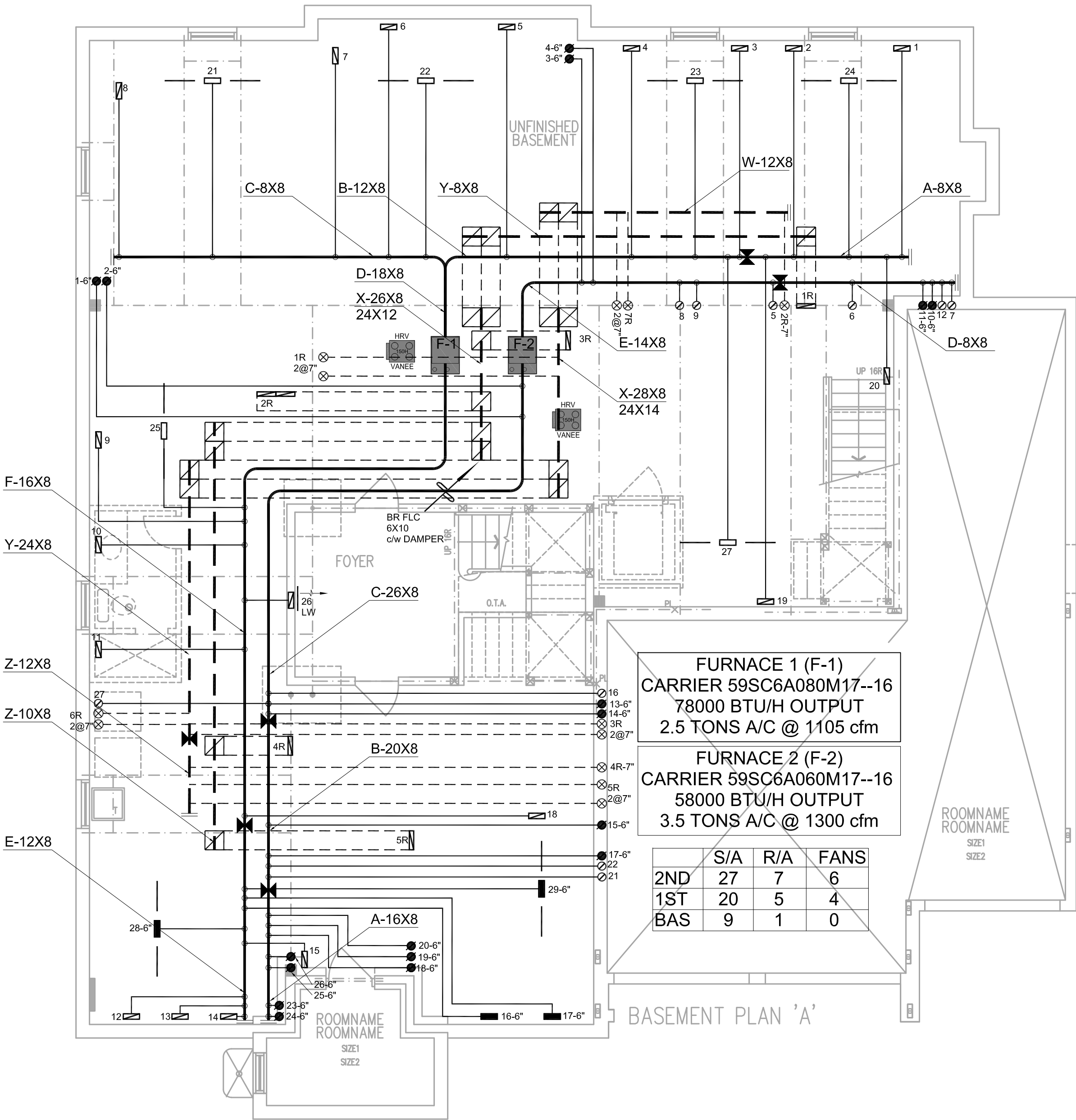
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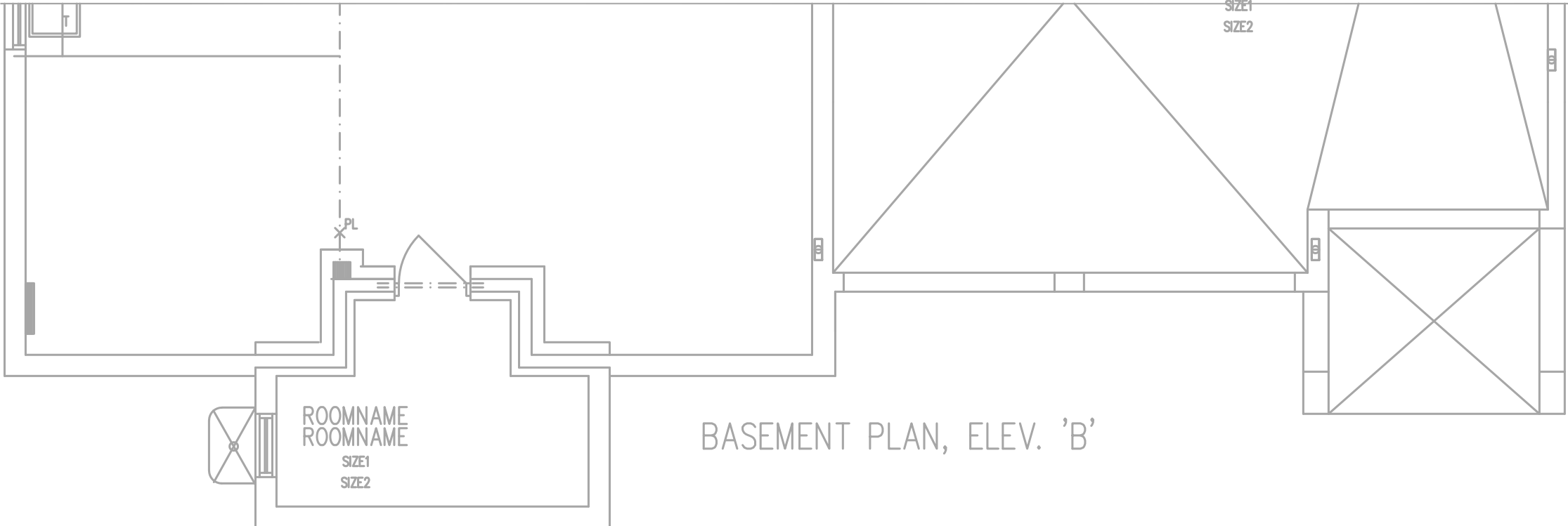
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	S/A	R/A	FANS
2ND	27	7	6
1ST	20	5	4
BAS	9	1	0

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	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
	6" SUPPLY AIR BOOT ABOVE
	SUPPLY AIR STACK
	6" SUPPLY AIR STACK
	14X8 RETURN AIR GRILLE
	30X8 RETURN AIR GRILLE
	FLOOR RETURN AIR GRILLE
	RETURN STACK ABOVE
	RETURN AIR STACK
	REDUCER
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	FLEX DUCT
	EXHAUST FAN
	LINT TRAP by REVERSOMATIC
	DIRECT VENT
	LOW WALL
	HIGH WALL
	CEILING
	MOTORIZED ZONE DAMPER
	MOTORIZED DAMPER
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	CONCENTRIC VENT KIT
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3	REVISED AS PER CAD	JULY/2024	HR
2	REVISED TO PERFORMANCE PATH	APR/2022	KB
1	ISSUED FOR PERMIT	MAR/2022	EG
No.	Revision	Date	By

SB-12 PACKAGE PERFORMANCE

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# 19689
HVAC Designs Ltd.

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Specializing in Residential Mechanical Design Services

Client: ROYAL PINE HOMES
Project Name: VALES OF HUMBER SOUTH BRAMPTON, ONTARIO
7003
6169 SQFT

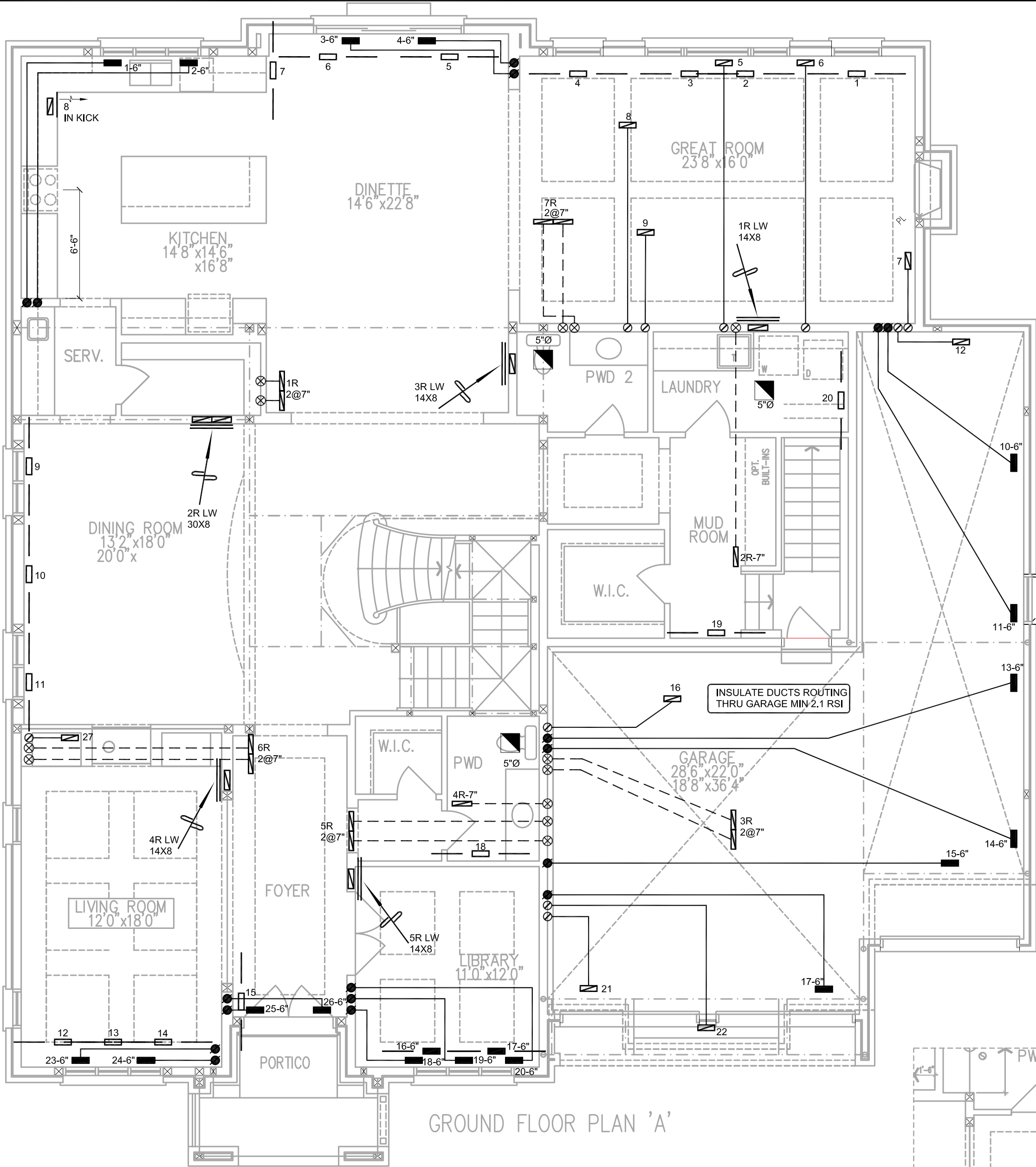
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Sheet Title: BASEMENT HEATING LAYOUT	
Drawn By: HR	Checked By: MO
Scale: 3/16"=1'-0"	Sheet No. 1
Date: MARCH 2022	
LO # 95348	

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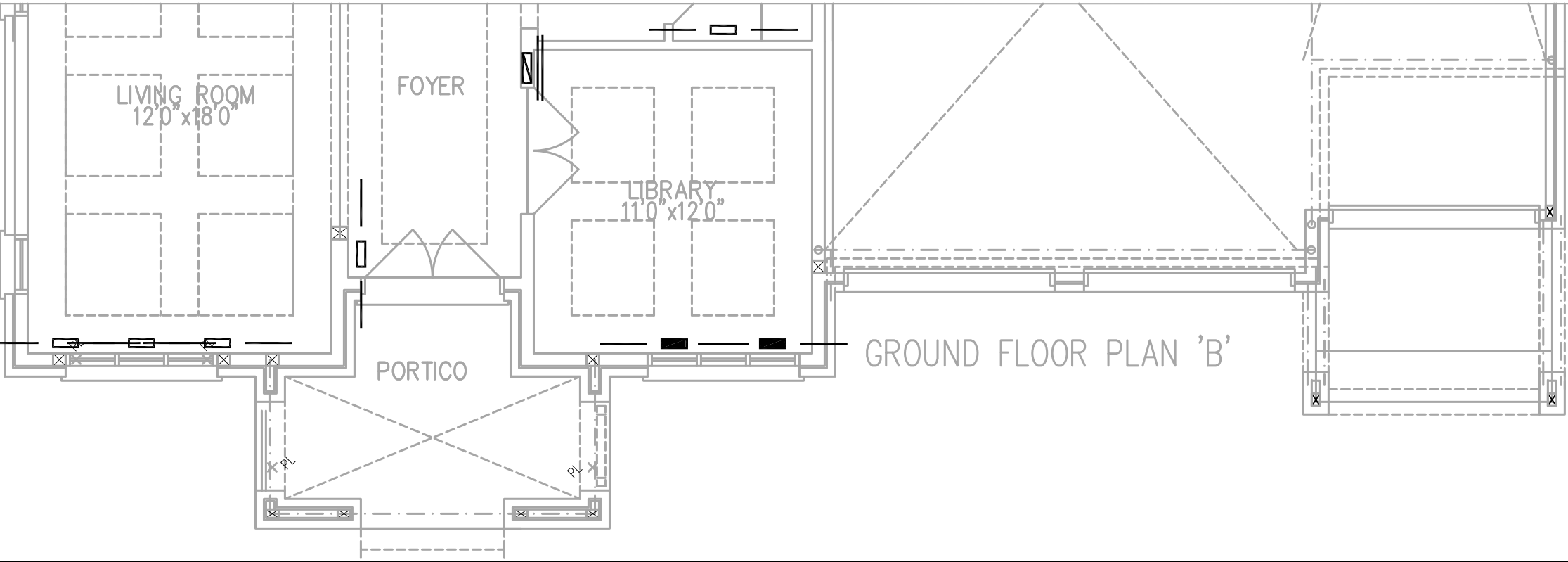
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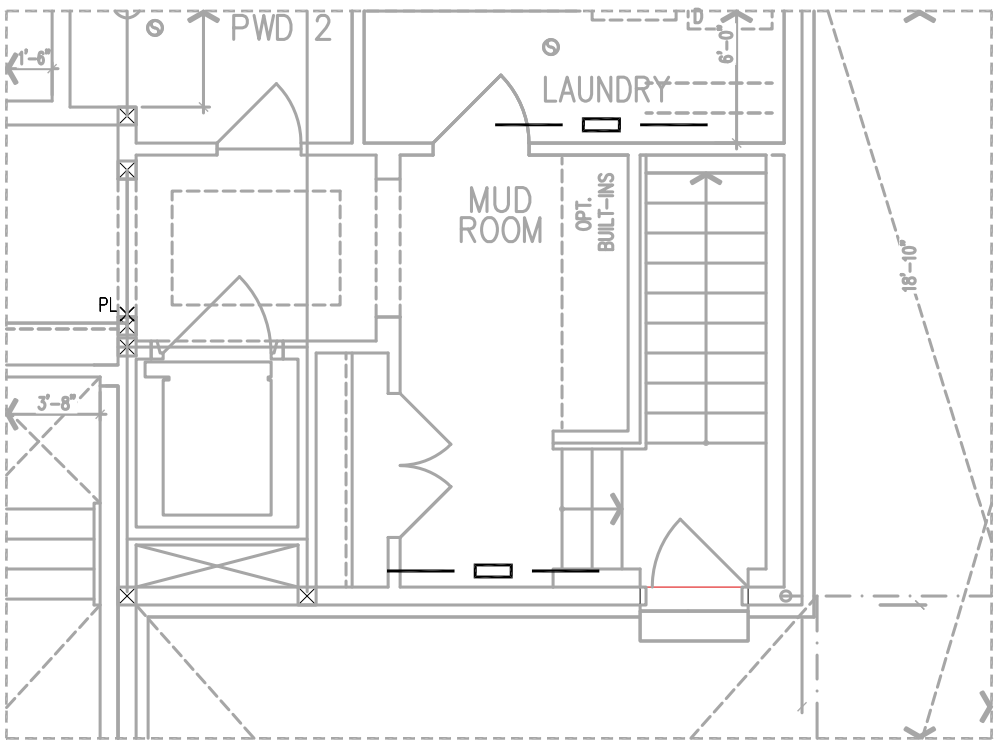
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GROUND FLOOR PLAN 'A'



GROUND FLOOR PLAN 'B'



PART. GROUND FLOOR PLAN W/ ELEVATOR COND. ('B' SIMILAR)

HVAC LEGEND	
	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
	6" SUPPLY AIR BOOT ABOVE
	SUPPLY AIR STACK
	6" SUPPLY AIR STACK
	14X8 RETURN AIR GRILLE
	30X8 RETURN AIR GRILLE
	FLOOR RETURN AIR GRILLE
	RETURN STACK ABOVE
	RETURN AIR STACK
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	SUPPLY DUCTWORK
	RETURN DUCTWORK
	FLEX DUCT
	EXHAUST FAN
	LINT TRAP by REVERSOMATIC
	DIRECT VENT
	LOW WALL
	HIGH WALL
	CEILING
	MOTORIZED ZONE DAMPER
	MOTORIZED DAMPER
	EXHAUST PIPE
	CONCENTRIC VENT KIT
	CONCENTRIC HRV or ERV VENT KIT
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	TRIPLE WALL BOX by REVERSOMATIC
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Client ROYAL PINE HOMES

Project Name VALES OF HUMBER SOUTH BRAMPTON, ONTARIO

7003
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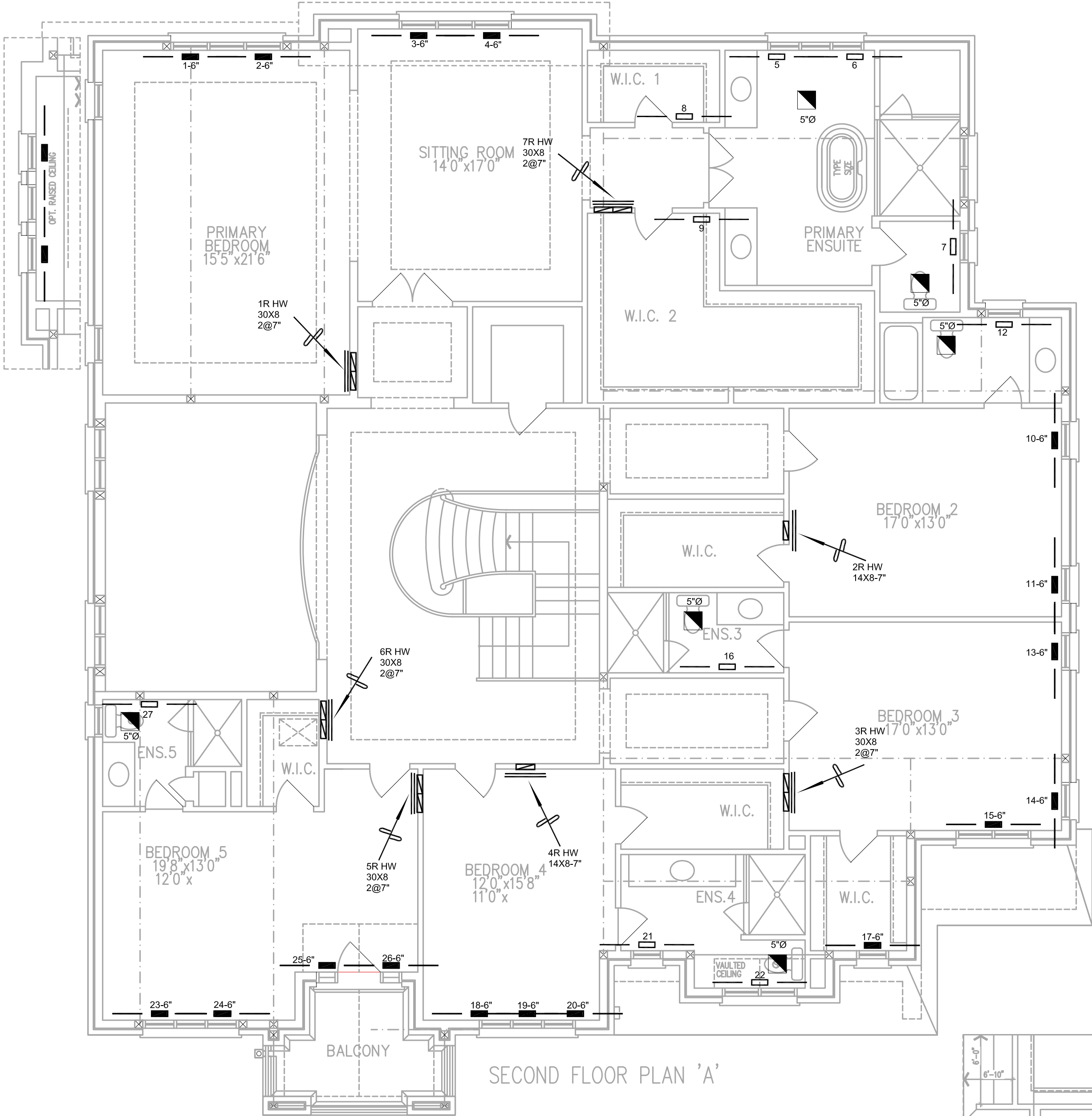
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Drawn By	HR	Checked By MO
Scale	3/16"=1'-0"	Sheet No.
Date	MARCH 2022	2
LO #	95348	3

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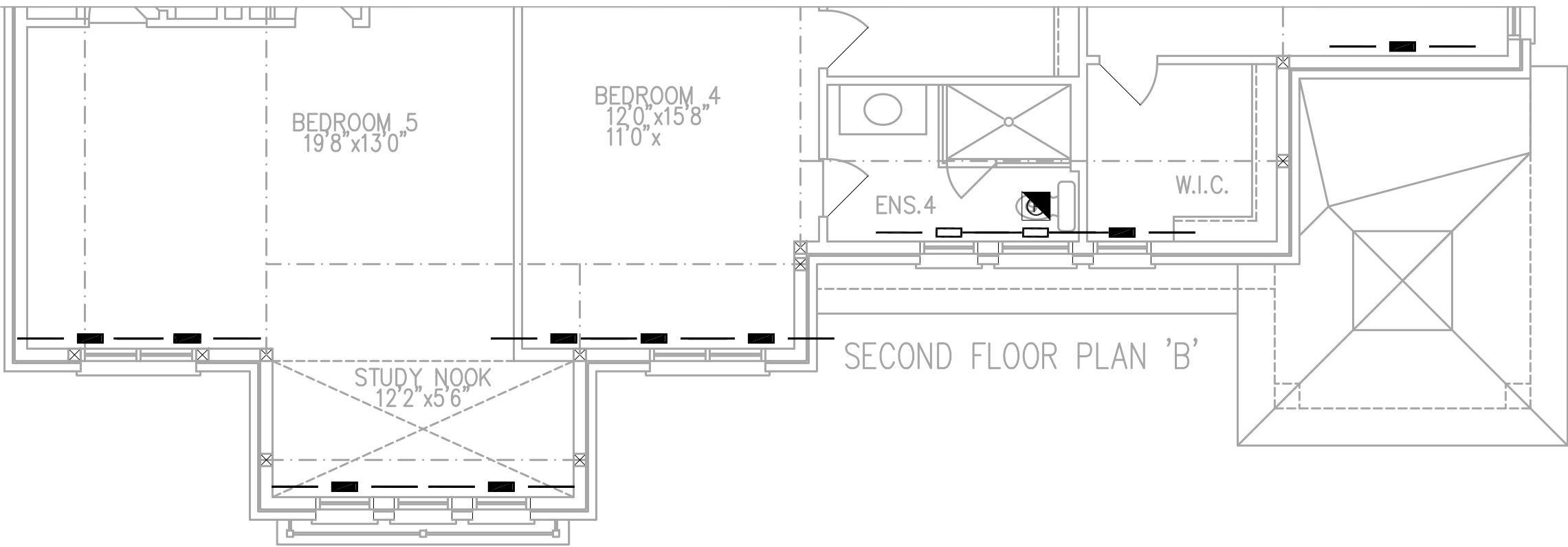
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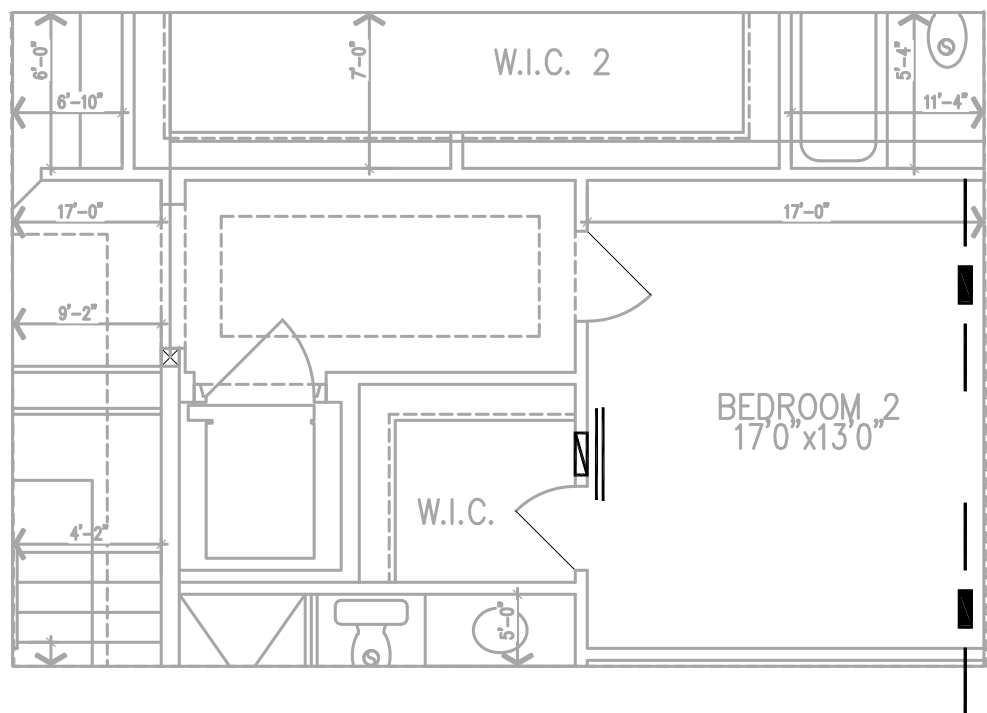
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SECOND FLOOR PLAN 'A'



SECOND FLOOR PLAN 'B'



PART. SECOND FLOOR PLAN
W/ ELEVATOR COND.
('B' SIMILAR)

HVAC LEGEND	
	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
	6" SUPPLY AIR BOOT ABOVE
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LO #	95348		3