

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 4002 - Elev. A,B & C		Lot: 4002	
Municipality Brampton		Postal code	Plan number/ other description
B. Individual who reviews and takes responsibility for design activities			
Name Doug McCallum		Firm McCallum HVAC Design Inc.	
Street address 2 Dewside Drive Unit 208		Unit no.	Lot/con.
Municipality Brampton	Postal code L6R 3Y5	Province Ontario	E-mail info@mccallumhvac.com
Telephone number (905) 840-8166	Fax number	Cell number (647) 229-0380	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]			
House ☒	HVAC – House	Building Structural	
Small Buildings	Building Services	Plumbing – House	
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings	
Complex Buildings	Fire Protection	On-site Sewage Systems	
Description of designer's work		Model Certification	
Heating and Cooling Load Calculations Air System Design Residential mechanical ventilation Design Summary Residential System Design per CAN/CSA-F280-12 Residential New Construction - Forced Air		Project #: RP23051	
		Builder	Royal Pine Homes
		Project	Forestside Estates
		Model	Unit 4002 - Elev. A,B & C
		SB-12	SB 12 Performance 28
D. Declaration of Designer			
I, <u>Doug McCallum</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 Division C of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.			
Individual BCIN: <u>25896</u>			
Firm BCIN: <u>102614</u>			
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: _____			
Basis for exemption from registration: _____			
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.			
<u>2023-06-07</u> 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 qualifications under Subsections 3.2.4 . and 3.2.5. of Division C.
- Schedule 1 does not require to be completed 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 licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166

e-mail - info@mccallumhvac.com

Heat loss and gain calculation summary sheet		CSA-F280-M12 Standard Form No. 1
These documents issued for the use of <u>Royal Pine Homes</u>		Project No. RP23051
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.		
Building Location		
Address (Model): Unit 4002 - Elev. A,B & C	Site: Forestside Estates	
Model:	Lot: 4002	
City and Province: Brampton	Postal code:	
Calculations based on		
Dimensional information based on:		
Attachment: Detached	Front facing: East	Assumed? Yes
No. of Levels: 3 Ventilated? Included	Air tightness: -1	Assumed? Yes
Weather location: Brampton	Wind exposure: Shelterd	
HRV? VanEE 65H	Internal shading: Light-translucent Occupants: 6	
Sensible Eff. at -25C 60.0 % Apparent Effect. at -0C 75.0 %	Units: Imperial	
Heating design conditions		Cooling design conditions
Outdoor temp: -2.2°F Indoor temp: 72.0°F Mean soil temp: 48.2°F		Outdoor temp: 86.0°F Indoor temp: 72.0°F Latitude: 43.68
Above grade walls		Below grade walls
Style A: As per Selected OBC SB12 SB 1 R 22+1.	Style A: As per Selected OBC SB12 SB 1 R 20ci	
Style B: Existing Walls (When Applicable) R 12	Style B:	
Style C:	Style C:	
Style D:	Style D:	
Floors on soil		Ceilings
Style A: As per Selected OBC SB12 SB 12 F	Style A: As per Selected OBC SB12 SB 12 P R 60.0	
Style B:	Style B: As per Selected OBC SB12 SB 12 P R 31.0	
Exposed floors		Style C:
Style A: As per Selected OBC SB12 SB 12 R 31	Doors	
Style B:	Style A: As per Selected OBC SB12 SB 12 R 3.01	
Windows		Style B:
Style A: As per Selected OBC SB12 SB 12 I R 3.57	Style C:	
Style B: Existing Windows (When Applicable) R	Skylights	
Style C:	Style A: As per Selected OBC SB12 SB 12 R 2.04	
Style D:	Style B:	
Attached documents: As per Shedule 1		
Notes: Residential New Construction - Forced Air		
Calculations performed by		
Name: Doug McCallum	Postal code: L6R 3Y5	
Company: McCallum HVAC Design Inc.	Telephone: (905) 840-8166	
Address: 2 Dewside Drive Unit 208	Mobile: (647) 229-0380	
City: Brampton	E-mail: info@mccallumhvac.com	

Project: Forestside Estates

Model: Unit 4002 - Elev. A.B & C

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93

Location of Installation	
Lot #	Plan #
Township Brampton	
Roll #	Permit #
Address	

Total Ventilation Capacity 9.32.3.3(1)					
Bsmt & Master Bdrm	2	@ 21.2	cfm	42.4	cfm
Other Bedrooms	4	@ 10.6	cfm	42.4	cfm
Bathrooms & Kitchen	5	@ 10.6	cfm	53.0	cfm
Other rooms	4	@ 10.6	cfm	42.4	cfm
Total				<u>180.2</u>	

Builder	
Name	Royal Pine Homes
Address	
City	
Tel	Fax

Principal Ventilation Capacity 9.32.3.4(1)					
Master bedroom	1	@ 31.8	cfm	31.8	cfm
Other bedrooms	4	@ 15.9	cfm	63.6	cfm
Total				<u>95.4</u>	

Installing Contractor	
Name	
Address	
City	
Tel	Fax

Principal Exhaust Fan Capacity			
Make	Model	Location	
VanEE	65H	BASE	
129	cfm	64	Sones

Heat Recovery Ventilator			
Make	VanEE		
Model	65H		
	129	cfm high	64 cfm low
Sensible efficiency @ -25 deg C	60 %		
Sensible efficiency @ 0 deg C	75 %		

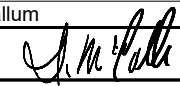
Combustion Appliances 9.32.3.1(1)	
a)	☒ Direct vent (sealed combustion) only
b)	☐ Positive venting induced draft (except fireplaces)
c)	☐ Natural draft, B-vent or induced draft fireplaces
d)	☐ Solid fuel (including fireplaces)
e)	☐ No combustion Appliances

Supplemental Ventilation Capacity	
Total ventilation capacity	180.2
Less principal exhaust capacity	95.4
REQUIRED supplemental vent. Capacity	<u>84.8</u> cfm

Heating System	
☒	Forced air
☐	Non forced air
☐	Electric space heat (if over 10% of heat load)

Supplemental Fans 9.32.3.5.			
Location	cfm	Model	Sones
ENSUITE	50	770	2.5
POWDER	50	770	2.5
		None	
		None	
all fans HVI listed		Make	Broan or Equiv.

House Type 9.32.3.1(2)	
I	☒ Type a) or b) appliances only, no solid fuel
II	☐ Type I except with solid fuel (including fireplace)
III	☐ Any type c) appliance
IV	☐ Type I or II either electric space heat
Other	☐ Type I, II or IV no forced air

Designer Certification	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name	Doug McCallum
Signature	
HRAI #	BCIN # 25896
Date	2023-06-07

System Design Option	
1	☐ Exhaust only / forced air system
2	☐ HRV WITH DUCTING / forced air system
3	☒ HRV simplified connection to forced air system
4	☐ HRV full ducting/not coupled to forced air system
	☐ Part 6 design

Project: Forestside Estates

Model: Unit 4002 - Elev. A,B & C

Air Leakage Calculations

Air Leakage Calculations	Building Air Leakage Heat Loss					Building Air Leakage Heat Gain					
	B	LRairh	Vb	HL^T	HLleak	B	LRairh	Vb	HG^T	HG Leak	
	0.018	0.339	45253.0	74.2	20512.95	0.018	0.1183429	45253	14.00	1349.55	
Air Leakage Calculations	Air Leakage Heat Loss/Gain Multiplier Table (Section 11)					Levels					
	Level	Level Factor (LF)	Building Air Leakage	Level Conductive Heat Loss (HLclevel)	Air Leakage Heat Loss Multiplier	1	2	3	4		
	1	0.5	20513	7085	1.44763	(LF)	(LF)	(LF)	(LF)		
	2	0.3		12815	0.48021	1.0	0.6	0.5	0.4		
Air Leakage Calculations	3	0.2		12978	0.31612		0.4	0.3	0.3		
	4	0		0	0.00000			0.2	0.2		
									0.1		
Air Leakage Calculations						Levels this Dwelling					
						3					
Air Leakage Calculations											

Ventilation Calculations

Vent	Ventilation Heat Loss					Ventilation Heat Gain				Vent
	Ventilation Heat Loss					Ventilation Heat Gain				
	C	PVC	HL^T	(1-E) HRV	HLbvent	C	PVC	HG^T	HGbvent	
	1.08	95.4	74.20	0.250	1911.24	1.08	95.4	14.00	1442.448	

Case 1					Case 1				
Ventilation Heat Loss (Exhaust only Systems)					Ventilation Heat Gain (Exhaust Only Systems)				
Case 1 - Exhaust Only					Case 1 - Exhaust Only		Multiplier		
Level	LF	HLbvent	LVL Cond. HL	Multiplier	HGbvent	1442.448	0.10		
1	0.5	1911	7085	0.13	Building Cond. HG	14850.00			
2	0.3		12815	0.04					
3	0.2		12978	0.03					
4	0		0	0					

Case 2					Case 2				
Ventilation Heat Loss (Direct Ducted Systems)					Ventilation Heat Gain (Direct Ducted Systems)				
			Multiplier					Multiplier	
C	HL^T	(1-E) HRV	20.03		C	HG^T	15.12		
1.08	74.20	0.25			1.08	14.00			

Case 3					Case 3				
Ventilation Heat Loss (Forced Air Systems)					Ventilation Heat Gain (Forced Air Systems)				
		HLbvent	Multiplier				Vent Heat Gain	Multiplier	
Total Ventilation Load		1911	0.06		HGbvent		HG*1.3	1442	0.10
					1442.448		1		

Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description

Province:	Brampton
Region:	ON
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10

Local Shielding

Building Site:	Suburban, forest
Walls:	Heavv
Flue:	Heavv
Highest Ceiling Height (m):	6.71

Building Configuration

Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m ³):	1282

Air Leakage/Ventilation

Air Tightness Type:	Custom - DBT values		
Custom BDT Data:	<input 2"="" type="text" value="ELA @ 10 Pa.</input></td><td colspan="/> 1621.304		
	3	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply:	Total Exhaust:	
	0	0	

Flue Size

Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0

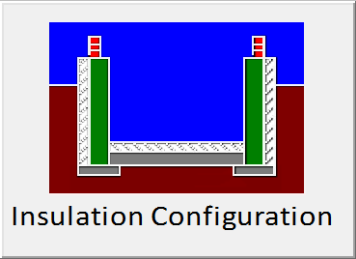
Envelope Air Leakage Rate

Heating Air Leakage Rate (ACH/H):

Cooling Air Leakage Rate (ACH/H):

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Brampton	
Region:	ON	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Deep (>10 m, >33 Ft)	
Foundation Dimensions		
Floor Length (m):	22.7	 Insulation Configuration BCIN_1
Floor Width (m):	5.73	
Exposed Perimeter (m):	57.0	
Wall Height (m):	3.05	
Depth Below Grade (m):	2.44	
Window Area (m ²):	1.49	
Door Area (m ²):	0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	23	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1979	

SYSTEM A

DESIGN LOAD SPECIFICATIONS				AIR DISTRIBUTION AND PRESSURE			
LEVEL 1 NET LOAD	17753 btu/h			EQUIPMENT EXTERNAL STATIC PRESSURE	0.500"W.C.		
LEVEL 2 NET LOAD	19715 btu/h			ADDITIONAL EQUIPMENT PRESSURE DROP	0.250"W.C.		
LEVEL 3 NET LOAD	18337 btu/h			AVAILABLE DESIGN PRESSURE	0.250"W.C.		
LEVEL 4 NET LOAD	0 btu/h			RETURN BRANCH LONGEST EFFECTIVE LENGTH	300ft		
SYSTEM HEATLOSS	55805 btu/h			R/A PLENUM PRESSURE	0.120"W.C.		
SYSTEM HEATGAIN	32650 btu/h			S/A PLENUM PRESSURE	0.130"W.C.		
BUILDING VOLUME Vb	45253.00 ft3			HEATING AIR FLOW PROPORTIONING FACTOR	0.0205 cfm/btuh		
VENTILATION LOAD	1911.00 btu/h			COOLING AIR FLOW PROPORTIONING FACTOR	0.0351 cfm/btuh		
VENTILATION PVC	95.40 cfm			R/A TEMP. 70°F	S/A TEMP. 121.75°F	DIFFUSER LOSS 0.01"W.C.	
FURNACE/AIR HANDLER DATA				BLOWER DATA			
MAKE	LENNOX			HEATING CHECK	1146.00 CFM		
MODEL	EL296UH070XE36B			SELECTED CFM	1145.00 CFM		
HIGH INPUT btu/h	66000	LOW INPUT btu/h	0	COOLING CHECK	1146.00 CFM		
HIGH OUTPUT btu/h	64000	LOW OUTPUT btu/h	0	COOLING AIR FLOW RATE	1145.00 CFM		
E.S.P.	0.50			BLOWER TYPE ECM (BRUSHLESS DC OBC 12.3.1.5.(2))			
WATER TEMP.				A/C UNIT DATA			
AFUE	96.97%			MAKER	3.0 TON		
AUX. HEAT	0			CONDENSER	3.0 TON		
SB-12 PACKAGE	SB 12 Performance 28			COIL	3.0 TON		
TEMP. RISE	51.75°F						

SUPPLY BRANCH AND GRILL SIZING

OUTLET #	ROOM USE	BTU/H OUTLET	HEATING AIR FLOW RATE CFM	COOLING AIR FLOW RATE CFM	DUCT DESIGN PRESSURE	ACTUAL DUCT LENGTH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	DUCT SIZE ROUND	OUTLET SIZE	TRUNK
25	BASE	3549	72	33	0.13	38	125	163	0.07	6.0	4x10	D1
26	BASE	3549	72	33	0.13	34	115	149	0.08	6.0	4x10	D1
27	BASE	3549	72	33	0.13	30	175	205	0.06	6.0	4x10	B1
28	BASE	3549	72	33	0.13	45	165	210	0.06	6.0	4x10	A1
29	BASE	3549	72	33	0.13	7	110	117	0.10	6	4x10	E1
15	KIT/BREAK	1845	37	61	0.13	38	165	203	0.06	6.0	4x10	C1
16	KIT/BREAK	1845	37	61	0.13	31	135	166	0.07	5.0	4x10	C1
17	KIT/BREAK	1845	37	61	0.13	36	175	211	0.06	6	4x10	C1
18	KIT/BREAK	1845	37	61	0.13	37	135	172	0.07	6	4x10	D1
19	DEN	1049	21	40	0.13	12	150	162	0.07	5.0	4x10	E1
20	LAUD/MUD	3071	62	50	0.13	15	160	175	0.07	5.0	4x10	E1
21	FOYER	4052	82	36	0.13	50	155	205	0.06	6.0	4x10	A1
22	PWD	271	5	2	0.13	34	145	179	0.07	5	4x10	B1
23	LIV/DIN	1939	39	46	0.13	34	185	219	0.05	5.0	4x10	B1
24	LIV/DIN	1939	39	46	0.13	26	150	176	0.07	5.0	4x10	D1
1	ENS WC	768	16	17	0.13	48	175	223	0.05	5	4x10	C1
2	ENSUITE	1462	30	43	0.13	42	165	207	0.06	5.0	4x10	C1
3	PRI BED	1620	33	53	0.13	33	155	188	0.06	6	4x10	C1
4	PRI BED	1620	33	53	0.13	27	185	212	0.06	6	4x10	D1
6	SHD BATH-1	1089	22	13	0.13	46	185	231	0.05	5	4x10	B1
12	SHD BATH-2	637	13	15	0.13	31	175	206	0.06	5	4x10	B1
14	PRI. WIC	609	12	6	0.13	34	175	209	0.06	5	4x10	D1
9	BED4 WIC	752	15	23	0.13	47	185	232	0.05	5	4x10	A1
13	BED-5	1629	33	48	0.13	29	120	149	0.08	6	4x10	E1
5	BED-2	2002	41	42	0.13	19	140	159	0.08	6	4x10	E1
10	BED-4	1416	29	48	0.13	64	165	229	0.05	6	4x10	A1
11	BED-4	1416	29	48	0.13	60	155	215	0.06	6	4x10	A1

7	BED-3	2057	42	54	0.13	56	155	211	0.06	6	4x10	B1
8	BED-3	2057	42	54	0.13	52	145	197	0.06	6	4x10	B1

RETURN BRANCH AND GRILL SIZING

R/A INLET #	INLET AIR VOLUME CFM	DUCT DESIGN PRESSU RE	ACTUAL DUCT LENGTH	EQUIVAL ENT LENGTH	TOTAL EFFECTIV E LENGTH	ADJUSTE D PRESSU RE	DUCT SIZE ROUND	INLET SIZE	TRUNK
1R	140	0.12	24	160	184	0.05	8	14x8	Y1
2R	140	0.12	20	120	140	0.07	7.5	14x8	W1
3R	140	0.12	40	180	220	0.05	8	14x8	W1
4R	60	0.12	56	140	196	0.05	6	14x8	V1
5R	60	0.12	49	170	219	0.05	6	14x8	V1
6R	355	0.12	12	160	172	0.06	10.5	30X8	Y1
7R	140	0.12	27	130	157	0.06	7.5	14x8	X1
8R	110	0.12	22	170	192	0.05	7	FLC	X1

RETURN TRUNK DUCT SIZING

TRUNK	CFM	PRESSU RE	ROUND	RECT. SIZE	SIZE ALTERNA TE
DROP	1145	0.05		0	
Z1	1145	0.05	17	26x10	26x10
Y1	495	0.05	12.5	18x8	24x6
X1	650	0.05	14	22x8	18x10
W1	400	0.05	11.5	14x8	20x6
V1	120	0.05	7.5	8x8	8x6

SUPPLY TRUNK DUCT SIZING

TRUNK	CFM	PRESSU RE	ROUND	RECT. SIZE	SIZE ALTERNA TE
A1	227	0.05	9.5	10x8	14x6
B1	462	0.05	12	16x8	22x6
C1	190	0.05	9	10X8	
D1	455	0.05	12	16x8	22x6
E1	1146	0.05	17	26x10	26x10

**HEATLOSS/GAIN
CALCULATIONS
CSA-F280-12**

ADDRESS/MODEL: Unit 4002 - Elev. A,B & C CLIENT: Royal Pine Homes
PROJECT #: RP23051 GTA: 3485
COMPLIANCE PACKAGE: SB 12 LOT: 4002
Performance 28 SITE: Forestside Estates



WEATHER DATA [Brampton] [43.68] [-2.20] [86.00] [51.80] [48.20] [74.20] [14.00]

LEVEL 1																									
BASE		TOTALS H.L.: 17753 btuh						H.G.: 4748 btuh				AREA: 1404 ft2		Above Grade: 2		GROSS EXP. WALL NEW 374 ft				EXIST 0 ft					
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT									
	NEW: 187 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2						
Eff. R-V	21.12		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03						
LOSS	3.5	0 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh					
GAIN	0.7	237 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh					
	DOORS			EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS									
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 8.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 8.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2						
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99						
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	166 btuh	37.3	0 btuh	0	0	0	0	20.8	166 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh					
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	225 btuh	14.9	0 btuh	0	0	0	0	21.7	174 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh					
FUND. CONDUCTIVE HEATLOSS				6752 btuh				AIR LEAKAGE NEW				AIR LEAKAGE EXIST				VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.	
TOTAL CONDUCTIVE		LOSS	7085 btuh		LOSS	1.4476		10256 btuh	LOSS	0.0000		0 btuh	LOSS	0.1		411.9 btuh	239		5792		LOSS	0%		0 btuh	
TOTAL CONDUCTIVE		GAIN	636 btuh		GAIN	0.0909		58 btuh	GAIN	0.0000		0 btuh	GAIN	0.10		62 btuh	0	0 btuh	50%	2896 btuh	GAIN	0%		0 btuh	
LEVEL 2																									
KIT/BREAK		TOTALS H.L.: 7384 btuh						H.G.: 6998 btuh				AREA: 530 ft2		C.Height: 11		GROSS EXP. WALL NEW 759 ft				EXIST 0 ft					
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT									
	NEW: 69 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 6 ft2		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2						
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03						
LOSS	4.0	2623 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	16 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh					
GAIN	0.8	495 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	9 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh					
	DOORS			EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS									
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 104.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2						
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99						
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	2162 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh					
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	2930 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh					
FUND. CONDUCTIVE HEATLOSS				0 btuh				AIR LEAKAGE NEW				AIR LEAKAGE EXIST				VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.	
TOTAL CONDUCTIVE		LOSS	4800 btuh		LOSS	0.4802		2305 btuh	LOSS	0.0000		0 btuh	LOSS	0.1		279.0 btuh	239		5792		LOSS	0%		0 btuh	
TOTAL CONDUCTIVE		GAIN	3434 btuh		GAIN	0.0909		312 btuh	GAIN	0.0000		0 btuh	GAIN	0.10		334 btuh	0	0 btuh	23%	1303 btuh	GAIN	0%		0 btuh	
DEN		TOTALS H.L.: 1050 btuh						H.G.: 1156 btuh				AREA: 110 ft2		C.Height: 11		GROSS EXP. WALL NEW 99 ft				EXIST 0 ft					
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT									
	NEW: 9 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2						
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03						
LOSS	4.0	328 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh					
GAIN	0.8	62 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh					
	DOORS			EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS									
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 17 ft2		EXIST: 0 ft2						
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99						
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	353 btuh	37.3	0 btuh					
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	200 btuh	14.9	0 btuh					
FUND. CONDUCTIVE HEATLOSS				0 btuh				AIR LEAKAGE NEW				AIR LEAKAGE EXIST				VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.	
TOTAL CONDUCTIVE		LOSS	682 btuh		LOSS	0.4802		328 btuh	LOSS	0.0000		0 btuh	LOSS	0.1		39.6 btuh	239		5792		LOSS	0%		0 btuh	
TOTAL CONDUCTIVE		GAIN	261 btuh		GAIN	0.0909		24 btuh	GAIN	0.0000		0 btuh	GAIN	0.10		25 btuh	0	0 btuh	10%	579 btuh	GAIN	0%		0 btuh	
LAUD/MUD		TOTALS H.L.: 3073 btuh						H.G.: 1420 btuh				AREA: 145 ft2		C.Height: 11		GROSS EXP. WALL NEW 253 ft				EXIST 0 ft					
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT									
	NEW: 23 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2						
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03						
LOSS	4.0	817 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh					
GAIN	0.8	154 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh					
	DOORS			EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS									
	NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 7 ft2		EXIST: 0 ft2						
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99						
LOSS	24.7	1035 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	145 btuh	37.3	0 btuh					
GAIN	4.7	195 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	82 btuh	14.9	0 btuh					
FUND. CONDUCTIVE HEATLOSS				0 btuh				AIR LEAKAGE NEW				AIR LEAKAGE EXIST				VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.	
TOTAL CONDUCTIVE		LOSS	1998 btuh		LOSS	0.4802		959 btuh	LOSS	0.0000		0 btuh	LOSS	0.1		116.1 btuh	239		5792		LOSS	0%		0 btuh	
TOTAL CONDUCTIVE		GAIN	432 btuh		GAIN	0.0909		39 btuh	GAIN	0.0000		0 btuh	GAIN	0.10		42 btuh	0	0 btuh	10%	579 btuh	GAIN	0%		0 btuh	
FOYER		TOTALS H.L.: 4055 btuh						H.G.: 1021 btuh				AREA: 175 ft2		C.Height: 11		GROSS EXP. WALL NEW 462 ft				EXIST 0 ft					
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT									
	NEW: 42 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2						

**HEATLOSS/GAIN
CALCULATIONS
CSA-F280-12**

ADDRESS/MODEL: Unit 4002 - Elev. A,B & C CLIENT: Royal Pine Homes
PROJECT #: RP23051
COMPLIANCE PACKAGE: SB 12
Performance 28
GTA: 3485
LOT: 4002
SITE: Forestside Estates



Eff. R-V	18.53	8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03			
LOSS	4.0	1682 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	317 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 21.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 21 ft2		EXIST: 0 ft2		
Eff. R-V	3.01	3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99			
LOSS	24.7	518 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	436 btuh	37.3	0 btuh	
GAIN	4.7	98 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	246 btuh	14.9	0 btuh	
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.			
TOTAL CONDUCTIVE		LOSS	2636 btuh	LOSS	0.4802	1266 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	153.2 btuh	239	5792		LOSS	0%	0 btuh			
TOTAL CONDUCTIVE		GAIN	661 btuh	GAIN	0.0909	60 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	64 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh		
PWD																					
		TOTALS H.L.: 271 btuh				H.G.: 51 btuh				AREA: 33 ft2		C.Height: 11		GROSS EXP. WALL				NEW 44 ft		EXIST 0 ft	
	EXPPOSED WALLS				EXPPOSED CEILING W/ATTIC				EXPPOSED CEILING NO ATTIC				EXPPOSED FLOORS				SKYLIGHT				
	NEW: 4 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53	8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03			
LOSS	4.0	176 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	33 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01	3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99			
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh	
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh	
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.			
TOTAL CONDUCTIVE		LOSS	176 btuh	LOSS	0.4802	85 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	10.2 btuh	239	5792		LOSS	0%	0 btuh			
TOTAL CONDUCTIVE		GAIN	33 btuh	GAIN	0.0909	3 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	3 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh		
LIV/DIN																					
		TOTALS H.L.: 3882 btuh				H.G.: 2618 btuh				AREA: 407 ft2		C.Height: 11		GROSS EXP. WALL				NEW 429 ft		EXIST 0 ft	
	EXPPOSED WALLS				EXPPOSED CEILING W/ATTIC				EXPPOSED CEILING NO ATTIC				EXPPOSED FLOORS				SKYLIGHT				
	NEW: 39 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53	8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03			
LOSS	4.0	1526 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	288 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 48.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01	3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99			
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	998 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh	
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	1042 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh	
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.			
TOTAL CONDUCTIVE		LOSS	2523 btuh	LOSS	0.4802	1212 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	146.7 btuh	239	5792		LOSS	0%	0 btuh			
TOTAL CONDUCTIVE		GAIN	1330 btuh	GAIN	0.0909	121 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	129 btuh	0	0 btuh	8%	434 btuh	GAIN	0%	0 btuh		
LEVEL 3																					
ENS WC		TOTALS H.L.: 718 btuh				H.G.: 473 btuh				AREA: 29 ft2		C.Height: 8		GROSS EXP. WALL				NEW 88 ft		EXIST 0 ft	
	EXPPOSED WALLS				EXPPOSED CEILING W/ATTIC				EXPPOSED CEILING NO ATTIC				EXPPOSED FLOORS				SKYLIGHT				
	NEW: 11 ft		EXIST: 0 ft		NEW: 29 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53	8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03			
LOSS	4.0	320 btuh	8.7	0 btuh	1.3	36 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	60 btuh	1.6	0 btuh	0.7	20 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 8.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01	3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99			
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	166 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh	
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	225 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh	
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L.			
TOTAL CONDUCTIVE		LOSS	523 btuh	LOSS	0.3161	165 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	30.4 btuh	239	5792		LOSS	0%	0 btuh			
TOTAL CONDUCTIVE		GAIN	306 btuh	GAIN	0.0909	28 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	30 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh		
ENSUITE																					
		TOTALS H.L.: 1400 btuh				H.G.: 1216 btuh				AREA: 135 ft2		C.Height: 8		GROSS EXP. WALL				NEW 120 ft		EXIST 0 ft	
	EXPPOSED WALLS				EXPPOSED CEILING W/ATTIC				EXPPOSED CEILING NO ATTIC				EXPPOSED FLOORS				SKYLIGHT				
	NEW: 15 ft		EXIST: 0 ft		NEW: 135 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53	8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03			
LOSS	4.0	392 btuh	8.7	0 btuh	1.3	169 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	74 btuh	1.6	0 btuh	0.7	93 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 22.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01	3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99			

**HEATLOSS/GAIN
CALCULATIONS
CSA-F280-12**

ADDRESS/MODEL: Unit 4002 - Elev. A,B & C CLIENT: Royal Pine Homes
PROJECT #: RP23051
COMPLIANCE PACKAGE: SB 12
Performance 28
GTA: 3485
LOT: 4002
SITE: Forestside Estates



LOSS	24.7	0 btuh	24.7	0 btuh	20.8	457 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	620 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L		
TOTAL CONDUCTIVE			LOSS	1019 btuh	LOSS	0.3161	322 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	59.2 btuh	239		5792		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	787 btuh	GAIN	0.0909	72 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	76 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh
PRI BED				TOTALS H.L.: 3092 btuh			H.G.: 2998 btuh			AREA: 349 ft2		C.Height: 8		GROSS EXP. WALL			NEW 280 ft	EXIST 0 ft		
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC			EXPOSED CEILING NO ATTIC			EXPOSED FLOORS			SKYLIGHT							
	NEW: 35 ft		EXIST: 0 ft		NEW: 349 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 8 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	961 btuh	8.7	0 btuh	1.3	437 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	20 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	181 btuh	1.6	0 btuh	0.7	242 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	2 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS			EAST/WEST WINDOWS			SE/SW WINDOWS			SOUTH WINDOWS			NORTH WINDOWS							
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 38.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 2.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	790 btuh	37.3	0 btuh	0	0	0	0	20.8	42 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	1071 btuh	14.9	0 btuh	0	0	0	0	21.7	43 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L		
TOTAL CONDUCTIVE			LOSS	2250 btuh	LOSS	0.3161	711 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	130.8 btuh	239		5792		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	1539 btuh	GAIN	0.0909	140 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	150 btuh	2	478 btuh	0%	0 btuh	GAIN	0%	0 btuh
SHD BATH-1				TOTALS H.L.: 1062 btuh			H.G.: 369 btuh			AREA: 96 ft2		C.Height: 8		GROSS EXP. WALL			NEW 56 ft	EXIST 0 ft		
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC			EXPOSED CEILING NO ATTIC			EXPOSED FLOORS			SKYLIGHT							
	NEW: 7 ft		EXIST: 0 ft		NEW: 96 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 91 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	192 btuh	8.7	0 btuh	1.3	120 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	227 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	36 btuh	1.6	0 btuh	0.7	66 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	24 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS			EAST/WEST WINDOWS			SE/SW WINDOWS			SOUTH WINDOWS			NORTH WINDOWS							
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 8 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	166 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	94 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L		
TOTAL CONDUCTIVE			LOSS	705 btuh	LOSS	0.3161	223 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	41.0 btuh	239		5792		LOSS	10%	93 btuh
TOTAL CONDUCTIVE			GAIN	221 btuh	GAIN	0.0909	20 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	22 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	22 btuh
SHD BATH-2				TOTALS H.L.: 613 btuh			H.G.: 432 btuh			AREA: 80 ft2		C.Height: 8		GROSS EXP. WALL			NEW 48 ft	EXIST 0 ft		
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC			EXPOSED CEILING NO ATTIC			EXPOSED FLOORS			SKYLIGHT							
	NEW: 6 ft		EXIST: 0 ft		NEW: 80 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 1 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	156 btuh	8.7	0 btuh	1.3	100 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	2 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	29 btuh	1.6	0 btuh	0.7	55 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS			EAST/WEST WINDOWS			SE/SW WINDOWS			SOUTH WINDOWS			NORTH WINDOWS							
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 9.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	187 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	195 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L		
TOTAL CONDUCTIVE			LOSS	446 btuh	LOSS	0.3161	141 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	25.9 btuh	239		5792		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	280 btuh	GAIN	0.0909	25 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	27 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh
PRI. WIC				TOTALS H.L.: 562 btuh			H.G.: 170 btuh			AREA: 71 ft2		C.Height: 8		GROSS EXP. WALL			NEW 80 ft	EXIST 0 ft		
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC			EXPOSED CEILING NO ATTIC			EXPOSED FLOORS			SKYLIGHT							
	NEW: 10 ft		EXIST: 0 ft		NEW: 71 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	320 btuh	8.7	0 btuh	1.3	89 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	60 btuh	1.6	0 btuh	0.7	49 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS			EAST/WEST WINDOWS			SE/SW WINDOWS			SOUTH WINDOWS			NORTH WINDOWS							
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L		
TOTAL CONDUCTIVE			LOSS	409 btuh	LOSS	0.3161	129 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	23.8 btuh	239		5792		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	110 btuh	GAIN	0.0909	10 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	11 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh
BED4 WIC				TOTALS H.L.: 725 btuh			H.G.: 651 btuh			AREA: 25 ft2		C.Height: 8		GROSS EXP. WALL			NEW 48 ft	EXIST 0 ft		
	EXPOSED WALLS			EXPOSED CEILING W/ATTIC			EXPOSED CEILING NO ATTIC			EXPOSED FLOORS			SKYLIGHT							

**HEATLOSS/GAIN
CALCULATIONS
CSA-F280-12**

ADDRESS/MODEL: Unit 4002 - Elev. A,B & C CLIENT: Royal Pine Homes
PROJECT #: RP23051
COMPLIANCE PACKAGE: SB 12
Performance 28
GTA: 3485
LOT: 4002
SITE: Forestside Estates



	NEW: 6 ft			EXIST: 0 ft		NEW: 25 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 23 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53			8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	144 btuh	8.7	0 btuh	1.3	31 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	57 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh	
GAIN	0.8	27 btuh	1.6	0 btuh	0.7	17 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	6 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh	
	DOORS					EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2			EXIST: 0.0 ft2		NEW: 12.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01			3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	249 btuh	37.3	0 btuh	0	0	0	0	20.8	0 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh	
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	338 btuh	14.9	0 btuh	0	0	0	0	21.7	0 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh	
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L			
TOTAL CONDUCTIVE			LOSS	482 btuh	LOSS	0.3161	152 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	28.0 btuh	239		5792		LOSS	10%	63 btuh	
TOTAL CONDUCTIVE			GAIN	389 btuh	GAIN	0.0909	35 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	38 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	39 btuh	

BED-5	TOTALS H.L.: 1569 btuh					H.G.: 1362 btuh					AREA: 244 ft2		C.Height: 8		GROSS EXP. WALL				NEW 120 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT					
	NEW: 15 ft			EXIST: 0 ft		NEW: 244 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 8 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53			8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03		
LOSS	4.0	400 btuh	8.7	0 btuh	1.3	306 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	20 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh		
GAIN	0.8	76 btuh	1.6	0 btuh	0.7	169 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	2 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh		
	DOORS					EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2			EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 20.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01			3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99		
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	416 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh		
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	434 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh		
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L				
TOTAL CONDUCTIVE			LOSS	1142 btuh	LOSS	0.3161	361 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	66.4 btuh	239		5792		LOSS	0%	0 btuh		
TOTAL CONDUCTIVE			GAIN	681 btuh	GAIN	0.0909	62 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	66 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh		

BED-2	TOTALS H.L.: 1914 btuh					H.G.: 1191 btuh					AREA: 291 ft2		C.Height: 8		GROSS EXP. WALL				NEW 168 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT					
	NEW: 21 ft			EXIST: 0 ft		NEW: 291 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 8 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53			8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03		
LOSS	4.0	593 btuh	8.7	0 btuh	1.3	365 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	20 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh		
GAIN	0.8	112 btuh	1.6	0 btuh	0.7	201 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	2 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh		
	DOORS					EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2			EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 2.0 ft2		EXIST: 0.0 ft2		NEW: 18 ft2		EXIST: 0 ft2		
Eff. R-V	3.01			3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99		
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	0 btuh	37.3	0 btuh	0	0	0	0	20.8	42 btuh	37.3	0 btuh	20.8	374 btuh	37.3	0 btuh		
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	0 btuh	14.9	0 btuh	0	0	0	0	21.7	43 btuh	14.9	0 btuh	11.7	211 btuh	14.9	0 btuh		
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L				
TOTAL CONDUCTIVE			LOSS	1393 btuh	LOSS	0.3161	440 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	81.0 btuh	239		5792		LOSS	0%	0 btuh		
TOTAL CONDUCTIVE			GAIN	570 btuh	GAIN	0.0909	52 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	55 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh		

BED-4	TOTALS H.L.: 2704 btuh					H.G.: 2707 btuh					AREA: 172 ft2		C.Height: 8		GROSS EXP. WALL				NEW 240 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT					
	NEW: 30 ft			EXIST: 0 ft		NEW: 172 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 8 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53			8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03		
LOSS	4.0	777 btuh	8.7	0 btuh	1.3	216 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	20 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh		
GAIN	0.8	147 btuh	1.6	0 btuh	0.7	119 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	2 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh		
	DOORS					EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2			EXIST: 0.0 ft2		NEW: 44.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 2.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01			3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99		
LOSS	24.7	0 btuh	24.7	0 btuh	20.8	915 btuh	37.3	0 btuh	0	0	0	0	20.8	42 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh		
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	1240 btuh	14.9	0 btuh	0	0	0	0	21.7	43 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh		
FUND. CONDUCTIVE HEATLOSS				0 btuh		AIR LEAKAGE NEW		AIR LEAKAGE EXIST		VENTILATION CASE 3				H.G. PEOPLE		APP. LOAD		DUCT PIPE L				
TOTAL CONDUCTIVE			LOSS	1968 btuh	LOSS	0.3161	622 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	114.4 btuh	239		5792		LOSS	0%	0 btuh		
TOTAL CONDUCTIVE			GAIN	1551 btuh	GAIN	0.0909	141 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	151 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh		

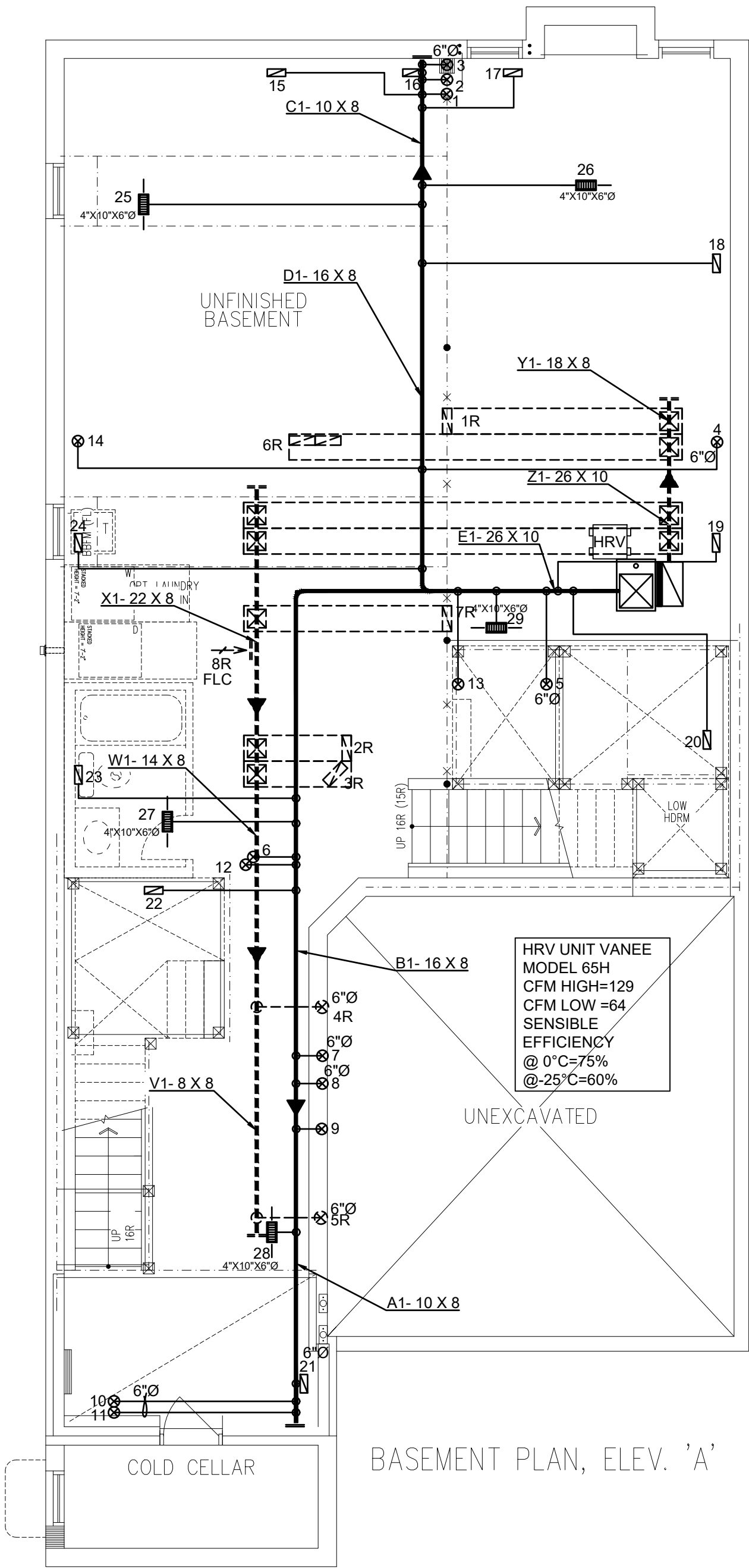
BED-3	TOTALS H.L.: 3978 btuh					H.G.: 3069 btuh					AREA: 265 ft2		C.Height: 8		GROSS EXP. WALL				NEW 256 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT					
	NEW: 32 ft			EXIST: 0 ft		NEW: 265 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 219 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		
Eff. R-V	18.53			8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03		
LOSS	4.0	849 btuh	8.7	0 btuh	1.3	332 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	545 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh		
GAIN	0.8	160 btuh	1.6	0 btuh	0.7	183 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	59 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh		
	DOORS					EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS				
	NEW: 0.0 ft2			EXIST: 0.0 ft2		NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 2.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2		
Eff. R-V	3.01			3.01		3.57		1.99		0		0		3.57		1.99		3.57		1.99		

**HEATLOSS/GAIN
CALCULATIONS
CSA-F280-12**

ADDRESS/MODEL: Unit 4002 - Elev. A,B & C CLIENT: Royal Pine Homes
PROJECT #: RP23051
COMPLIANCE PACKAGE: SB 12
Performance 28
GTA: 3485
LOT: 4002
SITE: Forestside Estates



LOSS	24.7	0 btuh	24.7	0 btuh	20.8	873 btuh	37.3	0 btuh	0	0	0	0	20.8	42 btuh	37.3	0 btuh	20.8	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	28.2	1183 btuh	14.9	0 btuh	0	0	0	0	21.7	43 btuh	14.9	0 btuh	11.7	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	2641 btuh	LOSS	0.3161	835 btuh	LOSS	0.0000	0 btuh	LOSS	0.1	153.5 btuh	239		5792		LOSS	10%	348 btuh	
TOTAL CONDUCTIVE		GAIN	1629 btuh	GAIN	0.0909	148 btuh	GAIN	0.0000	0 btuh	GAIN	0.10	158 btuh	1	239 btuh	0%	0 btuh	GAIN	10%	187 btuh	
LEVEL 4																				



3RD	# S/A	-	# R/A	-	# FANS
2ND	14		5		4
1ST	10		2		2
B	5		1		-
TOTAL	29		8		6

CONTRACTOR TO WORK FROM MUNICIPAL APPROVED DRAWINGS ONLY		
NAME	SIGNATURE	BCIN / BCDN
Doug McCallum		102614

- DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS. - INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. - COORDINATE EXACT LOCATION OF GRILLES AND REGISTERS WITH OTHER TRADES, SITE CONDITIONS, OWNER BUILDER, AND/OR ARCHITECT BEFORE INSTALLATION. - PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO S/A BRANCH OUTLETS, MAIN TAKE OFF'S & "Y" FITTINGS. - ALL S/A RUNS TO BE 4"X10"X5" ROUND UNLESS OTHERWISE NOTED - INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL DUCTS - ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.			TOTAL LOSS	55,805 BTUH	MODEL:	Unit 4002 - Elev. A,B & C
			TOTAL GAIN	32,650 BTUH	PROJECT #:	RP23051 SQFT: 3485 W%: 10.75
			HEATING UNIT	LENNOX	SITE:	Forestside Estates, Brampton
			MODEL #	EL296UH070XE36B	FOR:	Royal Pine Homes
			OUTPUT	64,000 BTUH	BUILDER:	Royal Pine Homes
				3.0 TONS		

PROPOSED BASEMENT

DATE: JUN/2023 | SCALE: 3/16"=1'-0" | DRAWN BY: SY/MP

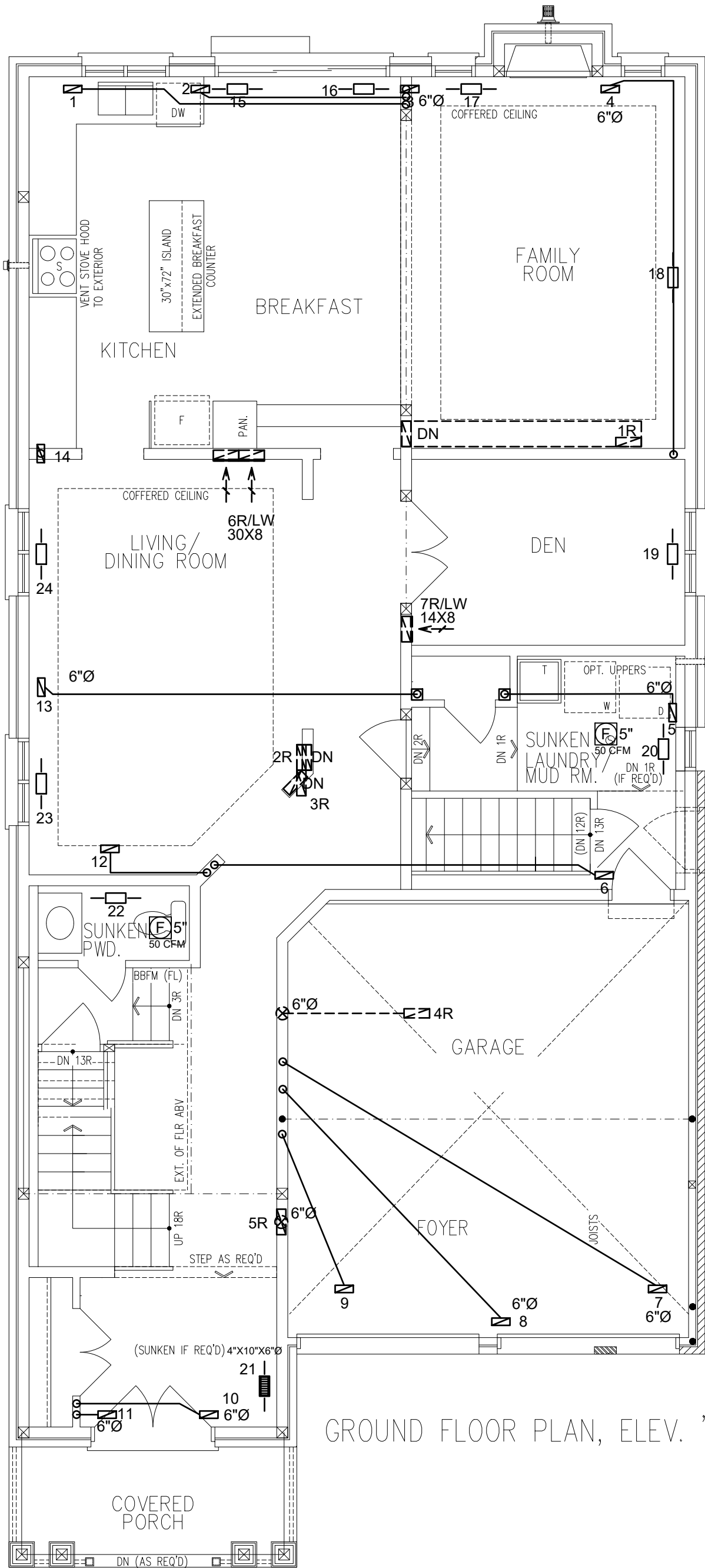
SB-12 PERFORMANCE

CSA F280-12

MCCALLUM
HVAC DESIGN INC

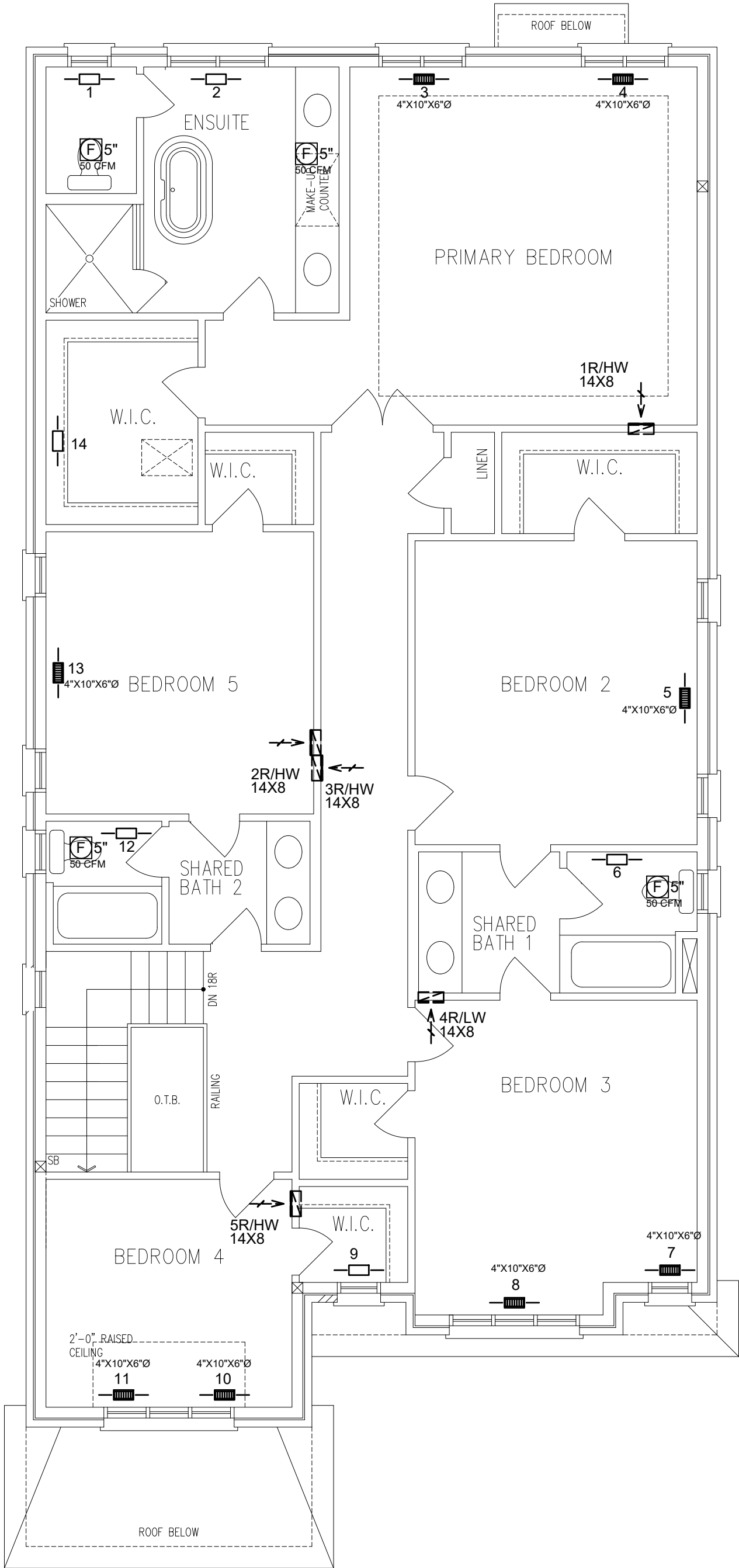
Brampton, Ontario, 905-840-8166, info@mccallumhvac.com

M1



GROUND FLOOR PLAN, ELEV. 'A'

<table><tr><td>3RD</td><td># S/A</td><td>-</td><td># R/A</td><td>-</td><td># FANS</td></tr><tr><td>2ND</td><td>14</td><td></td><td>5</td><td></td><td>4</td></tr><tr><td>1ST</td><td>10</td><td></td><td>2</td><td></td><td>2</td></tr><tr><td>B</td><td>5</td><td></td><td>1</td><td></td><td>-</td></tr><tr><td>TOTAL</td><td>29</td><td></td><td>8</td><td></td><td>6</td></tr></table>						3RD	# S/A	-	# R/A	-	# FANS	2ND	14		5		4	1ST	10		2		2	B	5		1		-	TOTAL	29		8		6	• DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS. • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. • COORDINATE EXACT LOCATION OF GRILLES AND REGISTERS WITH OTHER TRADES, SITE CONDITIONS, OWNER BUILDER, AND/OR ARCHITECT BEFORE INSTALLATION. • PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO S/A BRANCH OUTLETS, MAIN TAKE OFF'S & "Y" FITTINGS. • ALL S/A RUNS TO BE 4"x10"x5" ROUND UNLESS OTHERWISE NOTED • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL DUCTS • ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.						PROPOSED 1ST FLOOR <table><tr><td>DATE:</td><td>JUN/2023</td><td>SCALE:</td><td>3/16"=1'-0"</td><td>DRAWN BY:</td><td>SY/MP</td></tr><tr><td colspan="6">SB-12 PERFORMANCE</td></tr><tr><td colspan="6">CSA F280-12</td></tr></table>						DATE:	JUN/2023	SCALE:	3/16"=1'-0"	DRAWN BY:	SY/MP	SB-12 PERFORMANCE						CSA F280-12					
3RD	# S/A	-	# R/A	-	# FANS																																																												
2ND	14		5		4																																																												
1ST	10		2		2																																																												
B	5		1		-																																																												
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DATE:	JUN/2023	SCALE:	3/16"=1'-0"	DRAWN BY:	SY/MP																																																												
SB-12 PERFORMANCE																																																																	
CSA F280-12																																																																	
CONTRACTOR TO WORK FROM MUNICIPAL APPROVED DRAWINGS ONLY						TOTAL LOSS		55,805 BTUH		MODEL:		Unit 4002 - Elev. A,B & C																																																					
The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer. Doug McCallum102614 NAMESIGNATUREBCIN / BCDN						TOTAL GAIN		32,650 BTUH		PROJECT #:		RP23051 SQFT: 3485 W%: 10.75																																																					
						HEATING UNIT		LENNOX		SITE:		Forestside Estates, Brampton																																																					
						MODEL #		EL296UH070XE36B		FOR:		Royal Pine Homes																																																					
						OUTPUT		64,000 BTUH		BUILDER:		Royal Pine Homes																																																					
								3.0 TONS																																																									
				1145 CFM																																																													



3RD	# S/A	-	# R/A	-	# FANS
2ND	14		5		4
1ST	10		2		2
B	5		1		-
TOTAL	29		8		6

- DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS.
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- ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.

PROPOSED 2ND FLOOR		
DATE: JUN/2023	SCALE: 3/16"=1'-0"	DRAWN BY: SY/MP
SB-12 PERFORMANCE CSA F280-12		

CONTRACTOR TO WORK FROM MUNICIPAL APPROVED DRAWINGS ONLY		
The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.		
Doug McCallum		102614
NAME	SIGNATURE	BCIN / BCDN

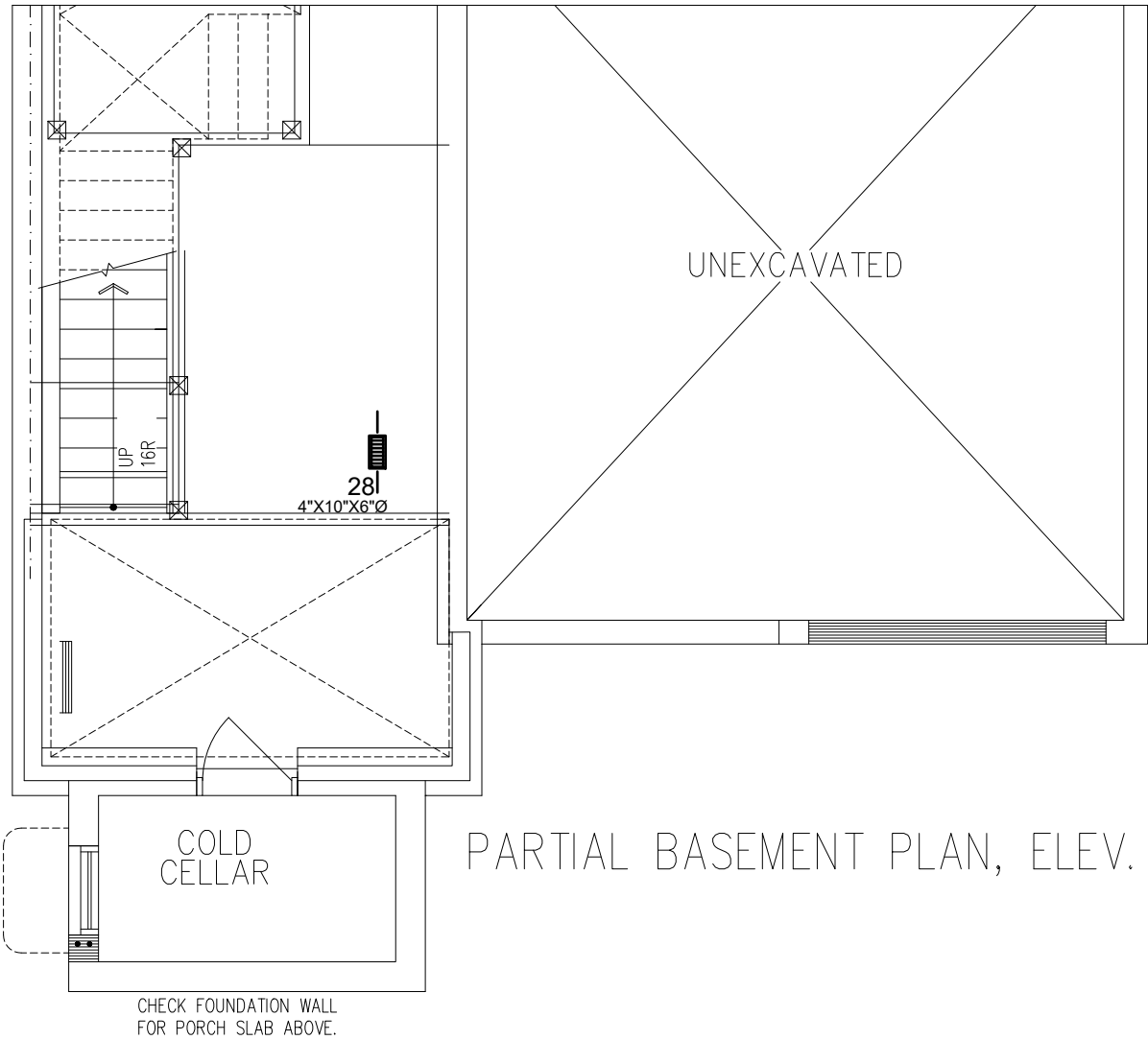
TOTAL LOSS	55,805 BTU/H	
TOTAL GAIN	32,650 BTU/H	
HEATING UNIT	LENNOX	
MODEL #	EL296UH070XE36B	3.0 TONS
OUTPUT	64,000 BTU/H	1145 CFM

MODEL:	Unit 4002 - Elev. A,B & C		
PROJECT #:	RP23051	SQFT: 3485	W%: 10.75
SITE:	Forestside Estates, Brampton		
FOR:	Royal Pine Homes		
BUILDER:	Royal Pine Homes		

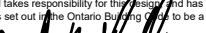


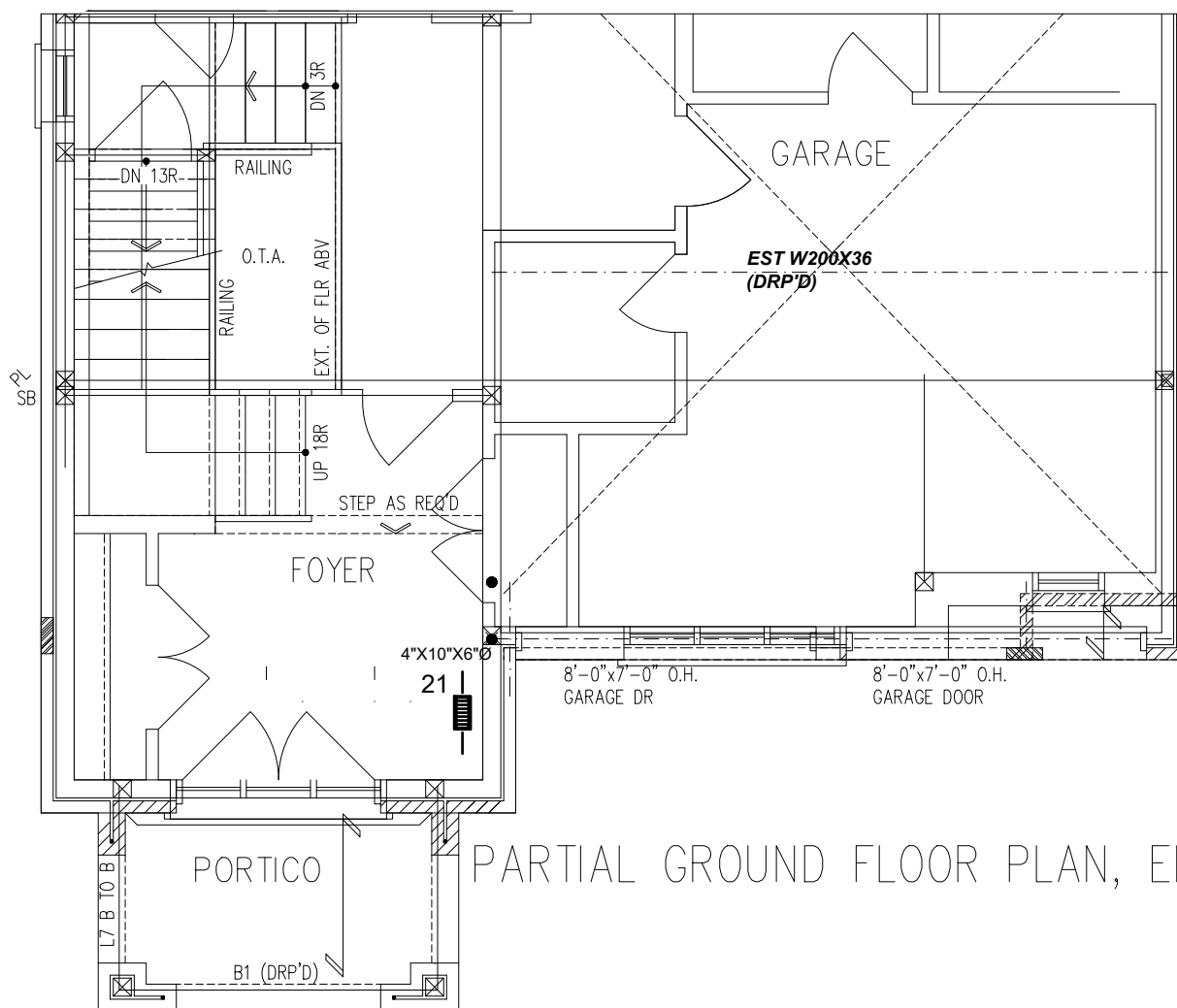
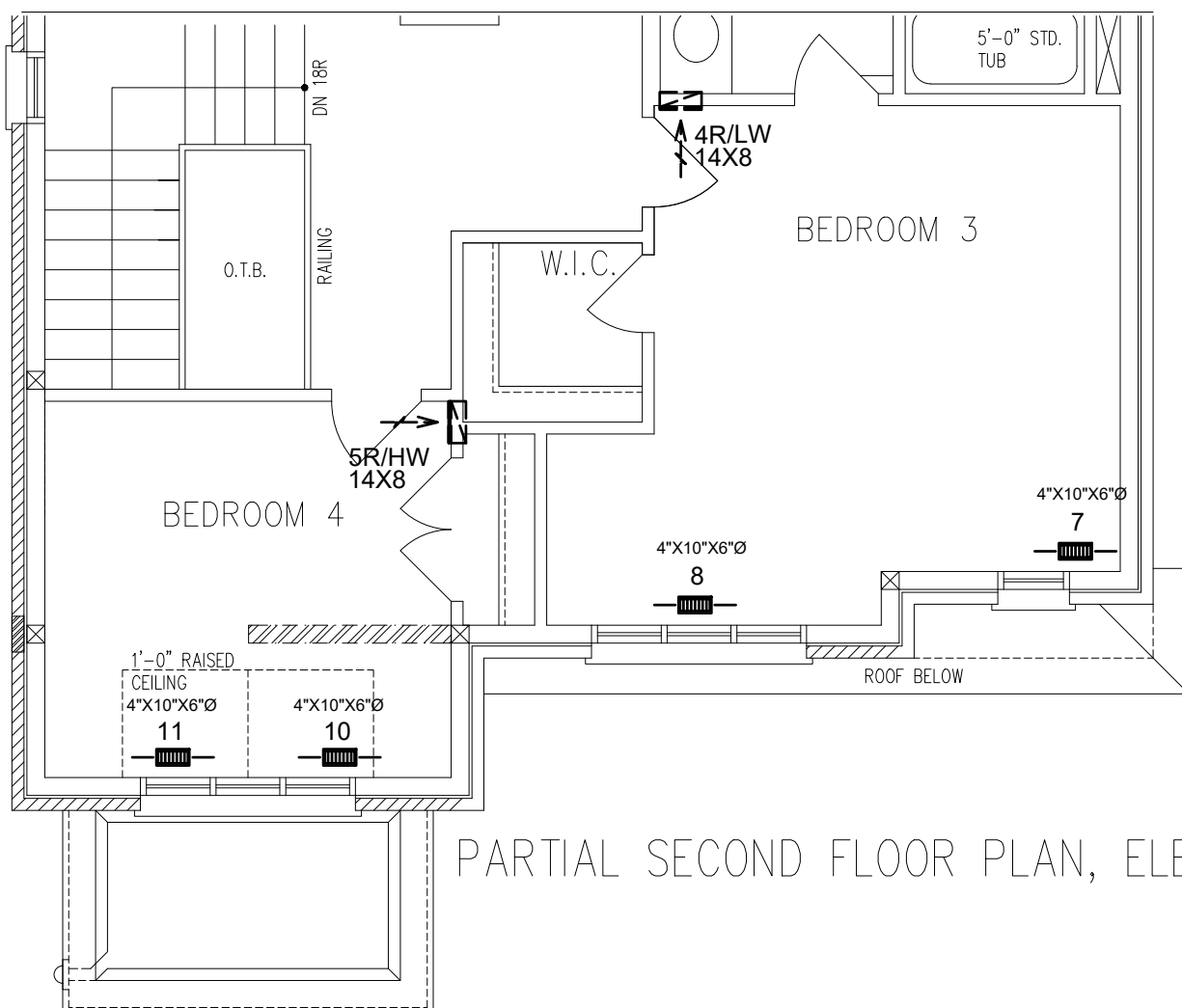
Brampton, Ontario, 905-840-8166, info@mccallumhvac.com

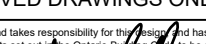
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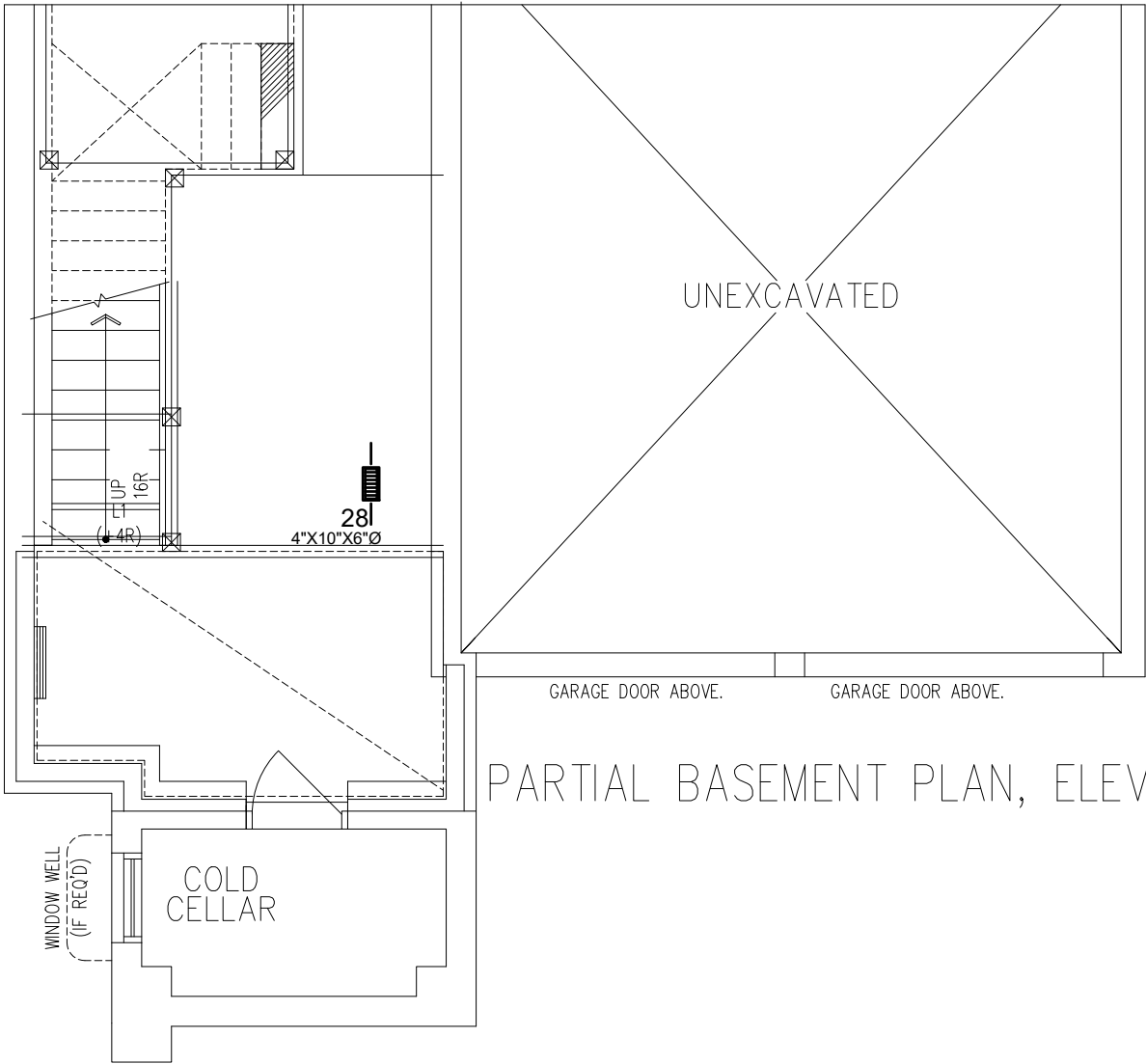


PARTIAL BASEMENT PLAN, ELEV. 'B'

<table><tr><td>3RD</td><td># S/A</td><td>-</td><td># R/A</td><td>-</td><td># FANS</td><td>-</td></tr><tr><td>2ND</td><td>14</td><td></td><td>5</td><td></td><td>4</td><td></td></tr><tr><td>1ST</td><td>10</td><td></td><td>2</td><td></td><td>2</td><td></td></tr><tr><td>B</td><td>5</td><td></td><td>1</td><td></td><td>-</td><td></td></tr><tr><td>TOTAL</td><td>29</td><td></td><td>8</td><td></td><td>6</td><td></td></tr></table>				3RD	# S/A	-	# R/A	-	# FANS	-	2ND	14		5		4		1ST	10		2		2		B	5		1		-		TOTAL	29		8		6		• DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS. • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. • COORDINATE EXACT LOCATION OF GRILLES AND REGISTERS WITH OTHER TRADES, SITE CONDITIONS, OWNER BUILDER, AND/OR ARCHITECT BEFORE INSTALLATION. • PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO S/A BRANCH OUTLETS, MAIN TAKE OFF'S & "Y" FITTINGS. • ALL S/A RUNS TO BE 4"x10"x5" ROUND UNLESS OTHERWISE NOTED • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL DUCTS • ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.				PARTIAL PLANS DATE: JUN/2023 SCALE: 3/16"=1'-0" DRAWN BY: SY/MP SB-12 PERFORMANCE CSA F280-12			
3RD	# S/A	-	# R/A	-	# FANS	-																																								
2ND	14		5		4																																									
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CONTRACTOR TO WORK FROM MUNICIPAL APPROVED DRAWINGS ONLY The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer. Doug McCallum  102614 NAME SIGNATURE BCIN / BCDN				TOTAL LOSS 55,805 BTUH		MODEL: Unit 4002 - Elev. A,B & C																																								
TOTAL GAIN 32,650 BTUH		PROJECT #: RP23051 SQFT: 3485 W%: 10.75																																												
HEATING UNIT LENNOX		SITE: Forestside Estates, Brampton																																												
MODEL # EL296UH070XE36B 3.0 TONS		FOR: Royal Pine Homes																																												
OUTPUT 64,000 BTUH 1145 CFM		BUILDER: Royal Pine Homes																																												
 Brampton, Ontario, 905-840-8166, info@mccallumhvac.com M4																																														



3RD	# S/A	- # R/A	- # FANS	-	• DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS. • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. • COORDINATE EXACT LOCATION OF GRILLES AND REGISTERS WITH OTHER TRADES, SITE CONDITIONS, OWNER BUILDER, AND/OR ARCHITECT BEFORE INSTALLATION. • PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO S/A BRANCH OUTLETS, MAIN TAKE OFF'S & "Y" FITTINGS. • ALL S/A RUNS TO BE 4"x10"x5" ROUND UNLESS OTHERWISE NOTED • INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL DUCTS • ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.	PARTIAL PLANS DATE: JUN/2023 SCALE: 3/16"=1'-0" DRAWN BY: SY/MP SB-12 PERFORMANCE CSA F280-12				
2ND	14	5	4							
1ST	10	2	2							
B	5	1	-							
TOTAL	29	8	6							
CONTRACTOR TO WORK FROM MUNICIPAL APPROVED DRAWINGS ONLY					TOTAL LOSS	55,805 BTUH	MODEL:	Unit 4002 - Elev. A,B & C		
					TOTAL GAIN	32,650 BTUH	PROJECT #:	RP23051	SQFT: 3485	W%: 10.75
The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer. Doug McCallum  102614 NAME SIGNATURE BCIN / BCDN					HEATING UNIT	LENNOX		SITE:	Forestside Estates, Brampton	
					MODEL #	EL296UH070XE36B	3.0 TONS	FOR:	Royal Pine Homes	
					OUTPUT	64,000 BTUH	1145 CFM	BUILDER:	Royal Pine Homes	
					 Brampton, Ontario, 905-840-8166, info@mccallumhvac.com M5					



PARTIAL BASEMENT PLAN, ELEV. 'C'

3RD	# S/A	-	# R/A	-	# FANS	-
2ND	14		5		4	
1ST	10		2		2	
B	5		1		-	
TOTAL	29		8		6	

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PARTIAL PLANS

DATE: JUN/2023 SCALE: 3/16"=1'-0" DRAWN BY: SY/MP

SB-12 PERFORMANCE
CSA F280-12

CONTRACTOR TO WORK FROM MUNICIPAL
APPROVED DRAWINGS ONLY

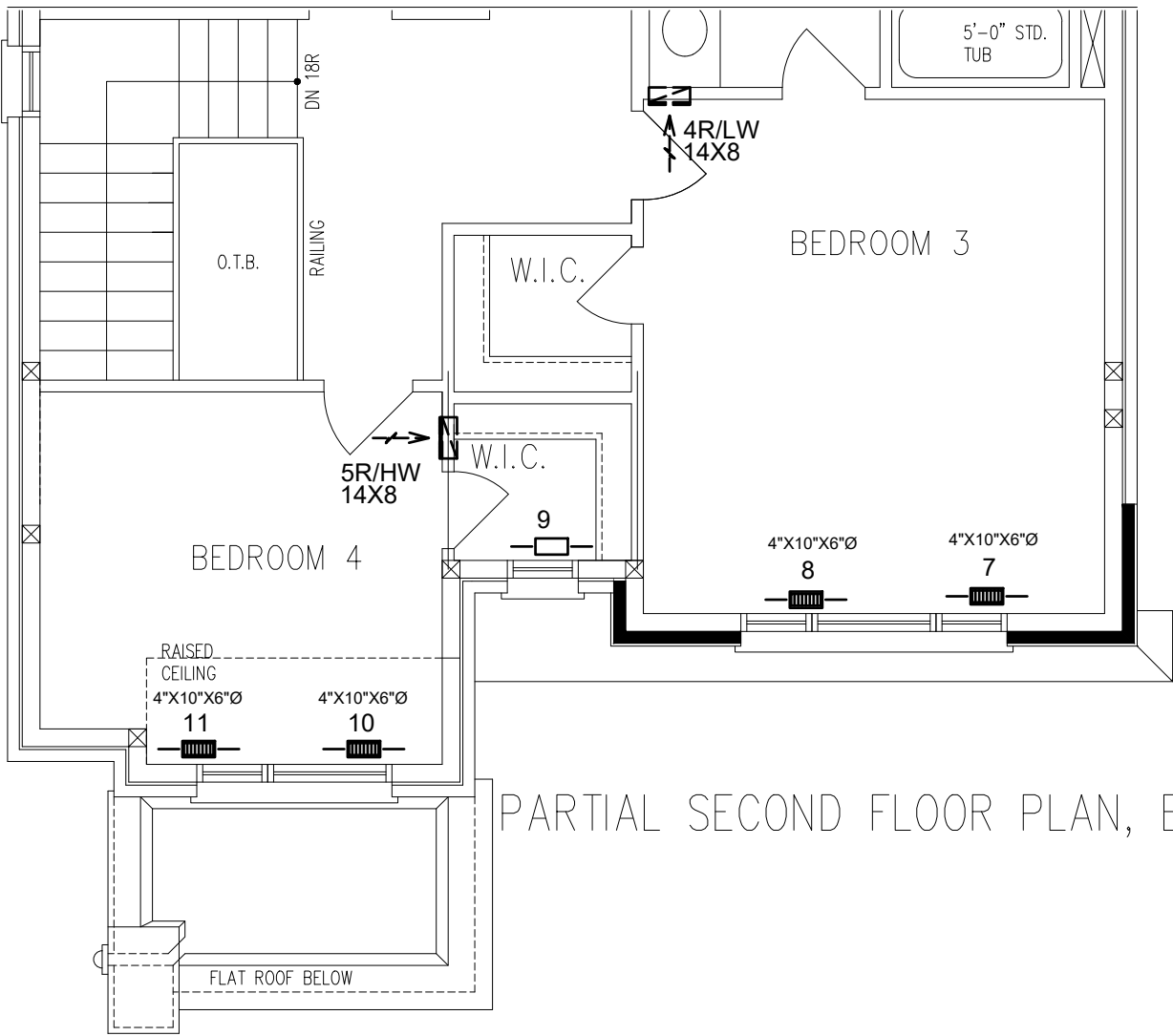
TOTAL LOSS	55,805 BTUH
TOTAL GAIN	32,650 BTUH
HEATING UNIT	LENNOX
MODEL #	EL296UH070XE36B
OUTPUT	64,000 BTUH

MODEL:	Unit 4002 - Elev. A,B & C
PROJECT #:	RP23051
SQFT:	3485
W%:	10.75
SITE:	Forestside Estates, Brampton
FOR:	Royal Pine Homes
BUILDER:	Royal Pine Homes

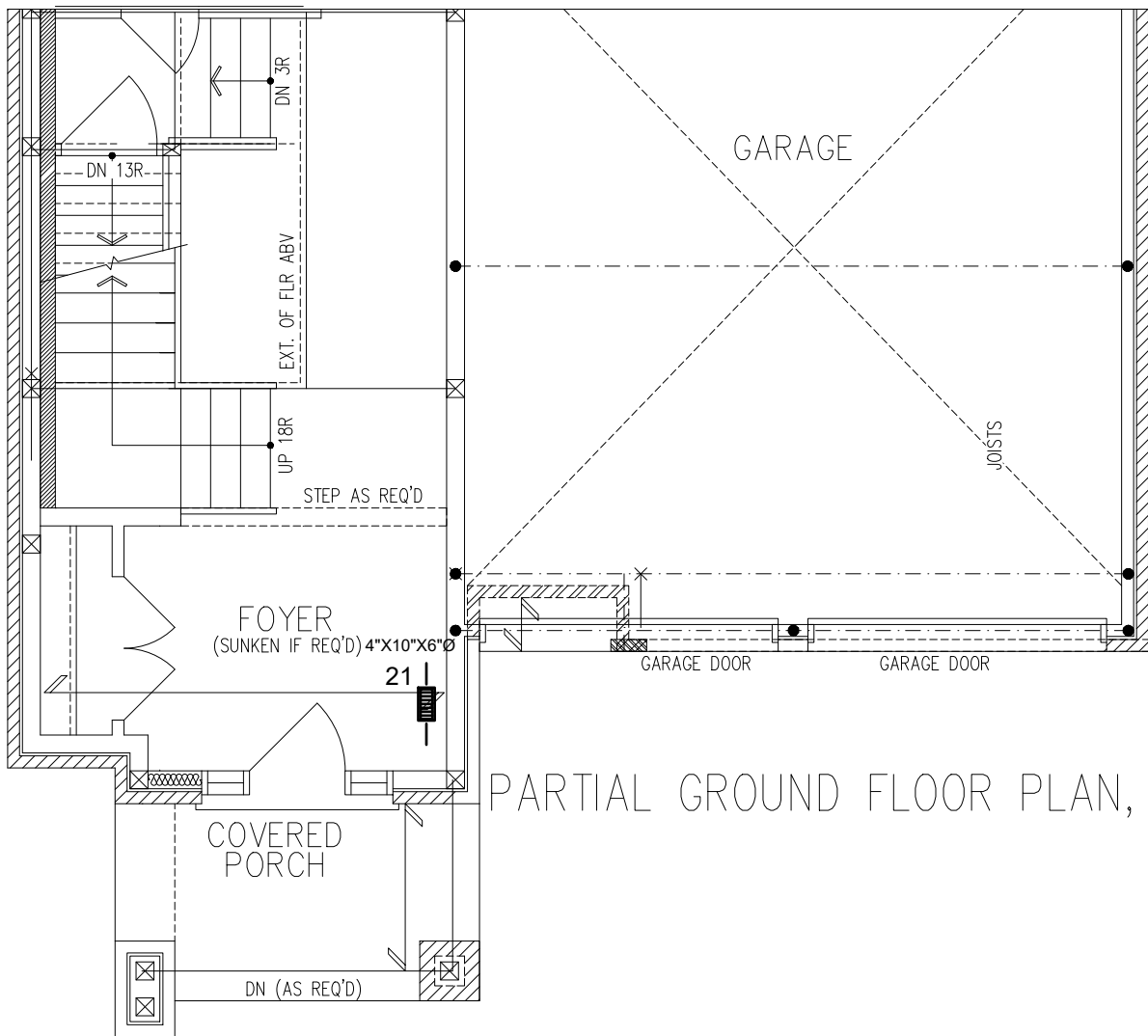


Brampton, Ontario, 905-840-8166, info@mccallumhvac.com

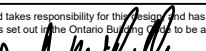
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PARTIAL SECOND FLOOR PLAN, ELEV. 'C'



PARTIAL GROUND FLOOR PLAN, ELEV. 'C'

<table><tr><td>3RD</td><td># S/A</td><td>- # R/A</td><td>- # FANS</td><td>-</td></tr><tr><td>2ND</td><td>14</td><td>5</td><td>4</td><td></td></tr><tr><td>1ST</td><td>10</td><td>2</td><td>2</td><td></td></tr><tr><td>B</td><td>5</td><td>1</td><td>-</td><td></td></tr><tr><td>TOTAL</td><td>29</td><td>8</td><td>6</td><td></td></tr></table>				3RD	# S/A	- # R/A	- # FANS	-	2ND	14	5	4		1ST	10	2	2		B	5	1	-		TOTAL	29	8	6		- DESIGNER TO BE NOTIFIED OF ALL & ANY CHANGES TO THE STRUCTURE AND/OR SYSTEM DESIGN BEFORE INSTALLATION BEGINS. - INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. - COORDINATE EXACT LOCATION OF GRILLES AND REGISTERS WITH OTHER TRADES, SITE CONDITIONS, OWNER BUILDER, AND/OR ARCHITECT BEFORE INSTALLATION. - PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO S/A BRANCH OUTLETS, MAIN TAKE OFF'S & "Y" FITTINGS. - ALL S/A RUNS TO BE 4"x10"x5" ROUND UNLESS OTHERWISE NOTED - INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL DUCTS - ALL DUCTWORK LOCATED IN UNHEATED SPACES SHALL BE MIN R-12. UNDERCUT ALL DOORS IN ROOMS WITHOUT RETURN AIR, KEEP JOINTS TIGHT AND AIR LEAKAGE TO A MINIMUM.				<table><tr><td colspan="4">PARTIAL PLANS</td></tr><tr><td>DATE:</td><td>JUN/2023</td><td>SCALE:</td><td>3/16"=1'-0"</td><td>DRAWN BY:</td><td>SY/MP</td></tr><tr><td colspan="6">SB-12 PERFORMANCE</td></tr><tr><td colspan="6">CSA F280-12</td></tr></table>				PARTIAL PLANS				DATE:	JUN/2023	SCALE:	3/16"=1'-0"	DRAWN BY:	SY/MP	SB-12 PERFORMANCE						CSA F280-12					
3RD	# S/A	- # R/A	- # FANS	-																																																						
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B	5	1	-																																																							
TOTAL	29	8	6																																																							
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DATE:	JUN/2023	SCALE:	3/16"=1'-0"	DRAWN BY:	SY/MP																																																					
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				MODEL #		EL296UH070XE36B		3.0 TONS		FOR:		Royal Pine Homes																																														
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										 MCCALLUM HVAC DESIGN INC Brampton, Ontario, 905-840-8166, info@mccallumhvac.com		M7																																														