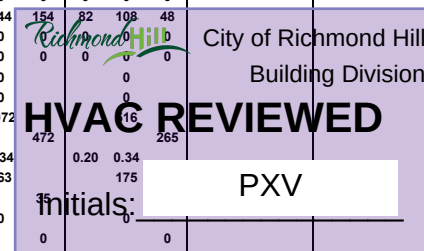


SITE NAME: TRINIGROUP										WOB										DATE: Oct-23										WINTER NATURAL AIR CHANGE RATE 0.380										HEAT LOSS ΔT °F. 78										CSA-F280-12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
BUILDER: GREENPARK HOMES										TYPE: ROSE 5										GFA: 3349										LO# 102608										SUMMER NATURAL AIR CHANGE RATE 0.118										HEAT GAIN ΔT °F. 13										SB-12 PACKAGE A1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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ROOM USE			OFFICE			FML			KT/BT			LV/DN			LAUN			PWD			FOY			MUD									WOB			BAS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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TOTAL HEAT GAIN BTU/H: 41848

TONS: 3.49

LOSS DUE TO VENTILATION LOAD BTU/H: 1670

STRUCTURAL HEAT LOSS: 59438

TOTAL COMBINED HEAT LOSS BTU/H: 61108

SITE NAME: TRINIGROUP
BUILDER: GREENPARK HOMESWOB
TYPE: ROSE 5

DATE: Oct-23

GFA: 3349 LO# 102608

HEATING CFM 1298
TOTAL HEAT LOSS 59,438
AIR FLOW RATE CFM 21.84
COOLING CFM 1298
TOTAL HEAT GAIN 41,573
AIR FLOW RATE CFM 31.22furnace pressure 0.7
furnace filter 0.14
a/c coil pressure 0.26
available pressure
for s/a & r/a 0.30#*GOODMAN
GMEC960804CNA
FAN SPEED 80AFUE = 96 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	15	8	4
R/A	0	0	5	3	1

plenium pressure s/a 0.16
max s/a dif press. loss 0.03
min adjusted pressure s/a 0.13
r/a pressure 0.14
r/a grille press. Loss 0.02
adjusted pressure r/a 0.12LOW 868
MEDLOW 978
MEDIUM 1298
MEDIUM HIGH 1504
HIGH 1615DESIGN CFM = 1298
CFM @ .7" E.S.P.

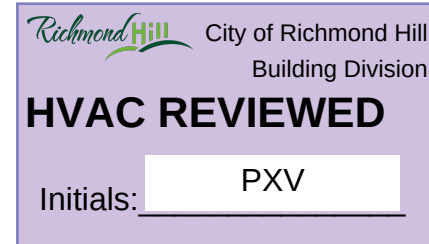
TEMPERATURE RISE 55 °F

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-4	FLEX	MBR	ENS-3	OFFICE	FML	KT/BT	KT/BT	LV/DN	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.53	1.82	0.72	2.00	2.05	1.74	0.63	0.65	1.44	1.53	0.69	1.31	3.25	2.24	2.24	3.70	0.17	1.72	2.60	2.80	5.06	5.06	5.06	5.06
CFM PER RUN HEAT	33	40	16	44	45	38	14	14	31	33	15	29	71	49	49	81	4	38	57	61	110	110	110	110
RM GAIN MBH.	1.72	1.33	0.17	2.66	2.62	2.26	0.36	0.28	1.61	1.72	0.37	1.80	2.59	2.45	2.45	2.26	1.03	1.10	1.55	1.36	1.14	1.14	1.14	1.14
CFM PER RUN COOLING	54	42	5	83	82	71	11	9	50	54	12	56	81	76	76	70	32	34	48	42	36	36	36	36
ADJUSTED PRESSURE	0.15	0.15	0.15	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.15	0.15	0.14	0.15	0.15	0.15	0.15	0.13	0.13	0.13	0.13
ACTUAL DUCT LGH.	53	51	38	29	57	58	34	46	36	63	49	15	36	39	28	26	15	46	37	31	42	47	17	35
EQUIVALENT LENGTH	180	170	150	140	140	190	140	120	200	180	170	130	110	120	120	130	170	130	100	160	120	120	140	120
TOTAL EFFECTIVE LENGTH	233	221	188	169	197	248	174	166	236	243	219	145	146	159	148	156	185	176	137	191	162	167	157	155
ADJUSTED PRESSURE	0.06	0.07	0.08	0.08	0.07	0.06	0.08	0.09	0.06	0.06	0.07	0.1	0.09	0.09	0.1	0.09	0.08	0.08	0.11	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	5	5	4	6	6	6	4	4	5	5	4	5	6	5	5	6	4	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	242	294	184	224	229	194	161	161	228	242	172	213	362	360	360	413	46	436	419	448	561	561	561	561
COOLING VELOCITY (ft/min)	396	308	57	423	418	362	126	103	367	396	138	411	413	558	558	357	367	390	352	308	184	184	184	184
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	B	B	D	C	B	D	D	A	D	B	A	A	A	D	B	C	C	D	A	A	D	C

RUN #	25	26	27
ROOM NAME	ENS	BED-3	BED-4
RM LOSS MBH.	0.61	2.05	1.74
CFM PER RUN HEAT	13	45	38
RM GAIN MBH.	0.44	2.62	2.26
CFM PER RUN COOLING	14	82	71
ADJUSTED PRESSURE	0.15	0.14	0.15
ACTUAL DUCT LGH.	40	51	64
EQUIVALENT LENGTH	160	120	190
TOTAL EFFECTIVE LENGTH	200	171	254
ADJUSTED PRESSURE	0.07	0.08	0.06
ROUND DUCT SIZE	4	6	6
HEATING VELOCITY (ft/min)	149	229	194
COOLING VELOCITY (ft/min)	161	418	362
OUTLET GRILL SIZE	3X10	4X10	4X10
TRUNK	B	D	C



SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK A	495	0.06	11.6	16	x	8	557	TRUNK G	0	0.00	0	0	8
TRUNK B	615	0.06	12.6	20	x	8	554	TRUNK H	0	0.00	0	0	8
TRUNK C	281	0.06	9.4	10	x	8	506	TRUNK I	0	0.00	0	0	8
TRUNK D	683	0.06	13.1	20	x	8	615	TRUNK J	0	0.00	0	0	8
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	8
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8
TRUNK P	0	0.05	0	0	x	8
TRUNK Q	0	0.05	0	0	x	8
TRUNK R	0	0.05	0	0	x	8
TRUNK S	0	0.05	0	0	x	8
TRUNK T	0	0.05	0	0	x	8
TRUNK U	0	0.05	0	0	x	8
TRUNK V	0	0.05	0	0	x	8
TRUNK W	220	0.05	8.9	10	x	8
TRUNK X	1298	0.05	17.4	28	x	10
TRUNK Y	513	0.05	12.3	18	x	8
TRUNK Z	390	0.05	11.1	14	x	8
DROP	1298	0.05	17.4	28	x	10

RETURN AIR #	1	2	3	4	5	6	7	8								BR
AIR VOLUME	85	85	85	85	85	343	135	175	0	0	0	0	0	0	0	220
PLENUM PRESSURE	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
ACTUAL DUCT LGH.	37	37	59	62	55	19	42	17	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	205	165	190	210	195	190	210	155	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	242	202	249	272	250	209	252	172	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.06	0.05	0.05	0.05	0.06	0.05	0.07	12.40	12.40	12.40	12.40	12.40	12.40	12.40	0.08
ROUND DUCT SIZE	6	6	6	6	6	10.1	7.5	7.5	0	0	0	0	0	0	0	8
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	14	0	0	0	0	0	0	0	24

CITY OF RICHMOND HILL
BUILDING DIVISION

05/01/2024

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TYPE: ROSE 5
SITE NAME: TRINIGROUP

LO # 102608
WOB

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>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>201.4</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	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>201.4</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>121.9</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>79.5</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 CFM	X 78 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
<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:	
GREENPARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

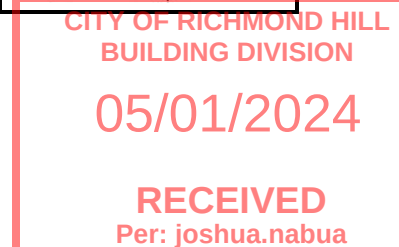
INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

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:	October-23

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* MICHAEL O'ROURKE

CITY OF RICHMOND HILL
BUILDING DIVISION
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CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 102608		Model: ROSE 5		Builder: GREENPARK HOMES																																																								
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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>1531</td><td>9</td><td>13779</td></tr> <tr><td>First</td><td>1531</td><td>10</td><td>15310</td></tr> <tr><td>Second</td><td>1818</td><td>9</td><td>16362</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>45,451.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>1287.0 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1531	9	13779	First	1531	10	15310	Second	1818	9	16362	Third	0	9	0	Fourth	0	9	0	Total:			45,451.0 ft³	Total:			1287.0 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%;">0.380</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.118</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>-21</td> <td>43</td> <td>78</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> <td>13</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.380	SUMMER NATURAL AIR CHANGE RATE	0.118	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-21	43	78	Summer DTDc	24	31	7	13
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.380 x 357.51 x 43 °C x 1.2 = 7044 W = 24035 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.118 x 357.51 x 7 °C x 1.2 = 361 W = 1233 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 78 °F x 1.08 x 0.25 = 1670 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 13 °F x 1.08 x 0.25 = 275 Btu/h																																																									
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;">24,035</td><td>8,211</td><td>1.464</td></tr> <tr><td>2</td><td>0.3</td><td>12,642</td><td>0.570</td></tr> <tr><td>3</td><td>0.2</td><td>14,178</td><td>0.339</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>					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	24,035	8,211	1.464	2	0.3	12,642	0.570	3	0.2	14,178	0.339	4	0	0	0.000	5	0	0	0.000																														
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												

Michael O'Rourke
BCIN# 19669


HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: ROSE 5	WOB	BUILDER: GREENPARK HOMES
SFQT: 3349	LO# 102608	SITE: TRINIGROUP

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	45451.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.80	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 61.0 ft	WIDTH: 34.0 ft	EXPOSED PERIMETER:	146.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	44.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component

Compliance Package A1

	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	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	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	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	96%	-
HRV/ERV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

CITY OF RICHMOND HILL
BUILDING DIVISION

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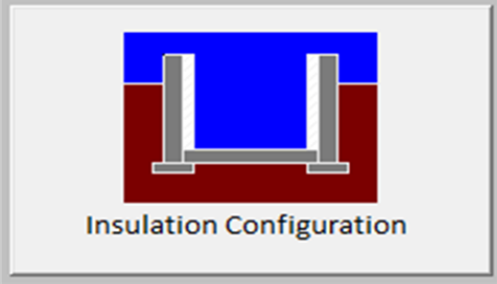
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INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	10.4	
Exposed Perimeter (m):	44.5	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.54	
Window Area (m ²):	1.1	
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):		737

TYPE: ROSE 5
LO# 102608

WOB

Michael O'Rourke BCIN #19669

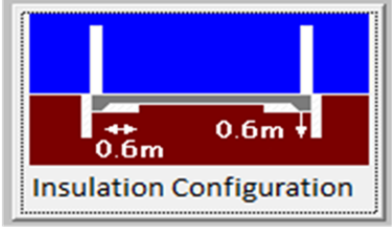
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BUILDING DIVISION

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Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	1.5	
Width (m):	10.4	
Exposed Perimeter (m):	13.4	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		169

TYPE: ROSE 5
LO# 102608

WOB

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BUILDING DIVISION

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Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Richmond Hill		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	8.53		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1287.0		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1715.6 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	37.5	37.5	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.380		
Cooling Air Leakage Rate (ACH/H):	0.118		

TYPE: ROSE 5
LO# 102608

WOB

Michael O'Rourke BCIN# 19669

CITY OF RICHMOND HILL
BUILDING DIVISION

05/01/2024


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INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

SUPPLEMENTAL EXHAUST FAN (MINIMUM 100 CFM) DISCHARGING DIRECTLY TO THE EXTERIOR WILL BE PROVIDED IN THE KITCHEN. EXHAUST DUCTS SERVING THE KITCHEN SHALL NOT BE SMALLER THAN RECOMMENDED BY THE MANUFACTURER OF THE FANS AND MUST AT LEAST MEET O.B.C. STATED MINIMUMS.

- 1.Laundry dryer exhaust duct shall be provided as per OBC 2012 Div.B 6.2.3.3(7).
- 2.Kitchen hood exhaust duct shall be provided as per OBC 2012, Div.B 9.32.3.10, 9.32.3.5(2).
- 3.Minimum R-12 Insulation Value required for ducts installed at unheated or exposed condition (OBC 2012 Div.B 6.2.4.3(10) and seal the ducts as per 6.2.4.3(11) & HRAI Digest 2005, Clause 4.5.
- 4.Penetration of Air Barrier System by ducts, wires, conduits or building materials shall be sealed as per OBC 2012, Div.B 9.25.3.3.(9) & (10).
- 5.Volume control dampers to all branches to be installed per OBC 2012, Div.B, 6.2.4.5.
- 6.Space between studs and joists used as return ducts shall be separated from unused portion as per OBC 2012 Div.B 6.2.4.7(6)

City of Richmond Hill
Building Division

REVIEWED

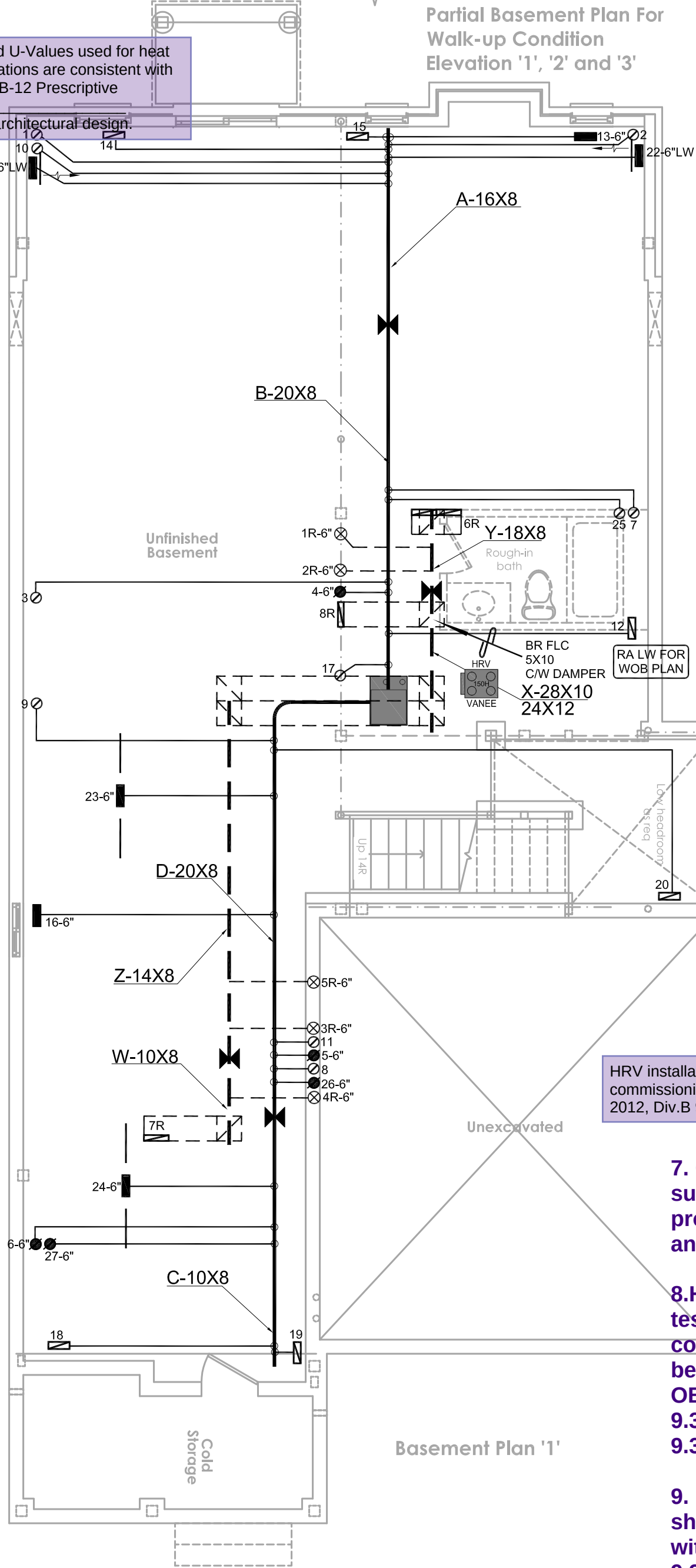
By: **PV** Date: **May/15/2024**

Building Permit #: **RM#24-00019**

All construction shall comply with the Ontario Building Code and all other applicable statutory regulations. The reviewed documents must be kept on site at all times.

Building inspection line 905-773-5465 (24 hr)
buildinginspections@richmondhill.ca
Building inquiry line 905-773-8810
building@richmondhill.ca

Ensure that R-Values and U-Values used for heat loss and heat gain calculations are consistent with the values specified by SB-12 Prescriptive Package: A1 and the values used for architectural design



HRV installation, testing, startup and commissioning shall be in compliance with OBC 2012, Div.B 9.32.3.11, 9.32.3.11(7)&(10)

7. Combustion air supply shall be provided to the furnace and hot water tank.

8.HRV installation, testing, startup and commissioning shall be in compliance with OBC 2012, Div.B 9.32.3.11, 9.32.3.11(7)&(10)

9. HRV duct connection shall be in compliance with OBC 2012 Div.B 9.32.3.6(3) & 9.32.3.4(7).

10. Supply air grill at finished basement shall be at low level. Return air grill for finished or unfinished basement shall be at low level. HRAI digest 2005, clause 7.7(3).

- 13.Exterior insulation effective R-Value for wall, roof or exposed floor shall be maintained at the respective location where duct or sanitary pipes are routed inside exterior envelope.
14. Return air intake shall be provided as recommended in HRAI Digest 2005 Section 4.7 Return air inlet should be positioned so that short circuiting of supply air is avoided. A high and low wall return air combination shall be provided when a combined cooling & heating system is installed.
15. For simplified HRV/ERV installation, with stale air and fresh air connected to return air plenum, stale air intake and fresh air supply shall be separated minimum 3' or as recommended by HRV/ERV Manufacturer.

