

SITE NAME: SECONDO BUILDING: GREENPARK HOMES										DATE: Dec-18	LO# 80951	GFA: 3046	TYPE: PINEBROOK 2 WOB	WINTER NATURAL AIR CHANGE RATE	0.292	HEAT LOSS AT °F: 81	HEAT GAIN AT °F: 14	CSA-F280-12
ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS GAIN	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2							
GRS.WALL AREA	342			LOSS GAIN	225	54	162	333	144	81	153							
GLAZING				LOSS GAIN														
NORTH	20.4	15.9			0	0	0	0	0	0	0							
EAST	20.4	41.5			0	0	0	0	0	0	0							
SOUTH	20.4	24.8			0	0	0	0	0	0	0							
WEST	20.4	41.5			0	0	0	0	0	0	0							
SKYLIT.	34.2	101.2			0	0	0	0	0	0	0							
DOORS	27.0	4.7			0	0	0	0	0	0	0							
NET EXPOSED WALL	5.4	0.9			310	1669	287	200	1077	185								
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.7			0	0	0	0	0	0								
EXPOSED CLG	1.6	0.7			336	539	238	156	250	111								
NO ATTIC EXPOSED CLG	4.0	1.8			0	0	0	0	0	0								
EXPOSED FLOOR	3.3	0.6			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					2860													
SUB TOTAL HT GAIN					1853													
LEVEL FACTOR / MULTIPLIER					0.20	0.22												
AIR CHANGE HEAT LOSS					632													
AIR CHANGE HEAT GAIN					148													
DUCT LOSS					0													
DUCT GAIN					0													
HEAT GAIN PEOPLE	240				2	480	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS					624													
TOTAL HT LOSS BTU/H					3492													
TOTAL HT GAIN x 1.3 BTU/H					4036													

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS GAIN	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2							
GRS.WALL AREA	210			LOSS GAIN	280	740	110	144	290	210	153							
GLAZING				LOSS GAIN														
NORTH	20.4	15.9			0	0	0	0	0	0	0							
EAST	20.4	41.5			0	0	0	0	0	0	0							
SOUTH	20.4	24.8			0	0	0	0	0	0	0							
WEST	20.4	41.5			0	0	0	0	0	0	0							
SKYLIT.	34.2	101.2			0	0	0	0	0	0	0							
DOORS	27.0	4.7			0	0	0	0	0	0	0							
NET EXPOSED WALL	5.4	0.9			188	1012	174	260	1400	241								
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.7			0	0	0	0	0	0								
EXPOSED CLG	1.6	0.7			0	0	0	0	0	0								
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BASEMENT/CRAWL HEAT LOSS					0	0	0	0	0	0								
SLAB ON GRADE HEAT LOSS					0	0	0	0	0	0								
SUBTOTAL HT LOSS					1460													
SUB TOTAL HT GAIN					720													
LEVEL FACTOR / MULTIPLIER					0.30	0.39												
AIR CHANGE HEAT LOSS					576													
AIR CHANGE HEAT GAIN					57													
DUCT LOSS					0													
DUCT GAIN					0													
HEAT GAIN PEOPLE	240				2	480	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS					624													
TOTAL HT LOSS BTU/H					2037													
TOTAL HT GAIN x 1.3 BTU/H					1822													

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TOTAL HT LOSS BTU/H					2037													
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TOTAL HEAT GAIN BTU/H:	36852	TONS: 3.07	LOSS DUE TO VENTILATION LOAD BTU/H: 3407	STRUCTURAL HEAT LOSS: 6052	TOTAL COMBINED HEAT LOSS BTU/H: 63958
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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.

SITE NAME: SECONDO
BUILDER: GREENPARK HOMES

TYPE: PINEBROOK 2 WOB DATE: Dec-18
furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

HEATING CFM	1122	COOLING CFM	1122	AFUE = 96 %	
TOTAL HEAT LOSS	60,552	TOTAL HEAT GAIN	36,276	INPUT (BTU/H) = 80,000	
AIR FLOW RATE CFM	18.53	AIR FLOW RATE CFM	30.93	OUTPUT (BTU/H) = 76,800	
RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	4
R/A	0	0	4	3	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'Ø unless noted otherwise on layout.

turnout pressure	0.5	turnout pressure	0.17	DESIGN CFM = 1122
furnace filter	0.05	r/a pressure	0.02	CFM @ .5" E.S.P. =
a/c coil pressure	0.2	r/a grille press. loss	0.02	
available pressure	0.35	adjusted pressure r/a	0.15	
for s/a & r/a				
	</			

ROOM #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	LVDN	OFF	KT/FM	KT/FM	WIC-2	LAUN	MUD	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.75	2.24	0.64	1.58	1.75	1.82	0.91	1.58	1.75	1.75	1.77	2.04	2.52	2.44	2.44	1.03	2.75	2.88	2.79	2.44	5.47	5.47	5.47	5.47
CFM PER RUN HEAT	32	42	12	29	32	30	17	29	32	32	33	38	47	45	45	19	51	53	52	45	101	101	101	101
RM GAIN MBH	2.02	1.61	0.21	1.90	2.07	2.04	0.51	1.90	2.07	2.02	0.98	1.82	1.85	1.91	1.91	0.71	2.09	0.53	0.48	1.91	1.44	1.44	1.44	1.44
CFM PER RUN COOLING	62	50	7	59	64	63	16	59	64	62	30	56	57	59	59	22	65	16	15	59	44	44	44	44
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	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	170	160	160	170	160	160	150	160	150	130	200	190	140	150	200	160	140	170	140	180	180	180	180	180
TOTAL EFFECTIVE LENGTH	232	193	211	211	203	183	184	207	202	206	251	194	158	187	245	186	156	232	186	245	210	250	190	216
ADJUSTED PRESSURE	0.07	0.09	0.08	0.08	0.08	0.09	0.09	0.08	0.09	0.08	0.07	0.09	0.11	0.09	0.07	0.09	0.11	0.07	0.09	0.07	0.08	0.06	0.09	0.08
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	4	5	4	5	5	4	5	5	4	5	6	6	6	6
HEATING VELOCITY (ft/min)	235	482	138	213	235	220	195	213	235	235	379	279	539	330	330	218	374	389	597	330	515	515	515	515
COOLING VELOCITY (ft/min)	455	574	80	433	470	463	184	433	470	455	344	411	654	433	433	252	477	117	172	433	224	224	224	224
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	C	D	D	A	A	D	B	A	A	C	A	B	B	D	C	A	B	C	A	C	D	C	B	A

ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
TRUNK A	327	0.07	0.07	0.07	10	8	8	0.00	0	0	0	0	0
TRUNK B	581	0.07	0.07	0.07	11.8	8	8	0.00	0	0	0	0	0
TRUNK C	308	0.06	0.06	0.06	12	8	8	0.00	0	0	0	0	0
TRUNK D	538	0.06	0.06	0.06	11.9	8	8	0.00	0	0	0	0	0
TRUNK E	0	0.00	0.00	0.00	0	8	8	0.00	0	0	0	0	0
TRUNK F	0	0.00	0.00	0.00	0	8	8	0.00	0	0	0	0	0

RETURN AIR #	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)
1	135	0.15	95	85	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
2	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
3	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
4	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
5	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
6	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
7	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
8	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
9	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
10	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
11	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
12	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
13	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
14	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
15	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
16	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
17	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
18	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
19	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
20	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
21	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
22	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
23	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15
24	155	0.15	118	118	0.15	155	0.15	10	10	0.15	155	0.15	10	10	0.15

TYPE: PINEBROOK 2 WOB
SITE NAME: SECONDO

LO # 80951

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>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>180.2</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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>180.2</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>25.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>155.0</u> cfm	<u>3.0</u> sonos
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
155.0 CFM	X 81 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
BATH	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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:	December-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																		
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																		
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5.2.3.1 Heat Loss due to Air Leakage																																																																		
$HL_{air-b} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																																		
0.292	x	324.02	x	45 °C	x	1.2	=	5142 W																																																										
								=	17545 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																		
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																		
155 CFM	x	81 °F	x	1.08	x	0.25	=	3407 Btu/h																																																										
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																		
$HL_{air} = Level Factor \times HL_{air-bv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																		
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																																		

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** PINEBROOK 2 WOB**BUILDER:** GREENPARK HOMES**SFQT:** 3046**LO#** 80951**SITE:** SECONDO**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-9	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

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):	41194.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 58.0 ft	WIDTH: 34.0 ft	EXPOSED PERIMETER:	92.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	92.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package ENERGYSTAR	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	50	50.72
Ceiling Without Attic Space Minimum RSI (R)-Value	31	20.54
Exposed Floor Minimum RSI (R)-Value	31	24.58
Walls Above Grade Minimum RSI (R)-Value	20 + 5	15.12
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	ZONE 2	-
Skylights Maximum U-Value	ZONE 2	-
Space Heating Equipment Minimum AFUE	0.95	-
HRV Minimum Efficiency	65%	-
Domestic Hot Water Heater Minimum EF	0.75	-

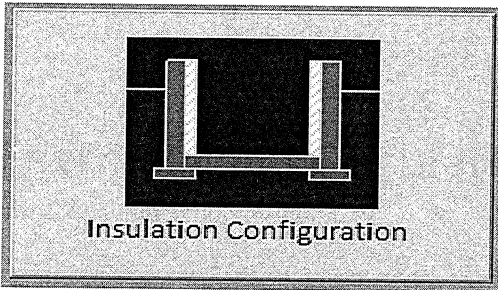
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

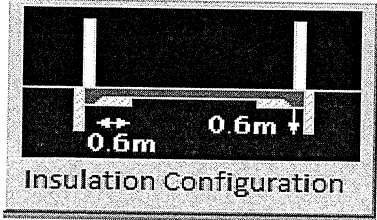
Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Bradford	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	11.9	 Insulation Configuration
Floor Width (m):	10.4	
Exposed Perimeter (m):	28.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.67	
Window Area (m ²):	0.9	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	787	

TYPE: PINEBROOK 2 WOB
LO# 80951

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Bradford	
Site Description		
Soil Conductivity:	Normal conductivity: dry dand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	8.8	
Width (m):	10.4	
Exposed Perimeter (m):	28.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		458

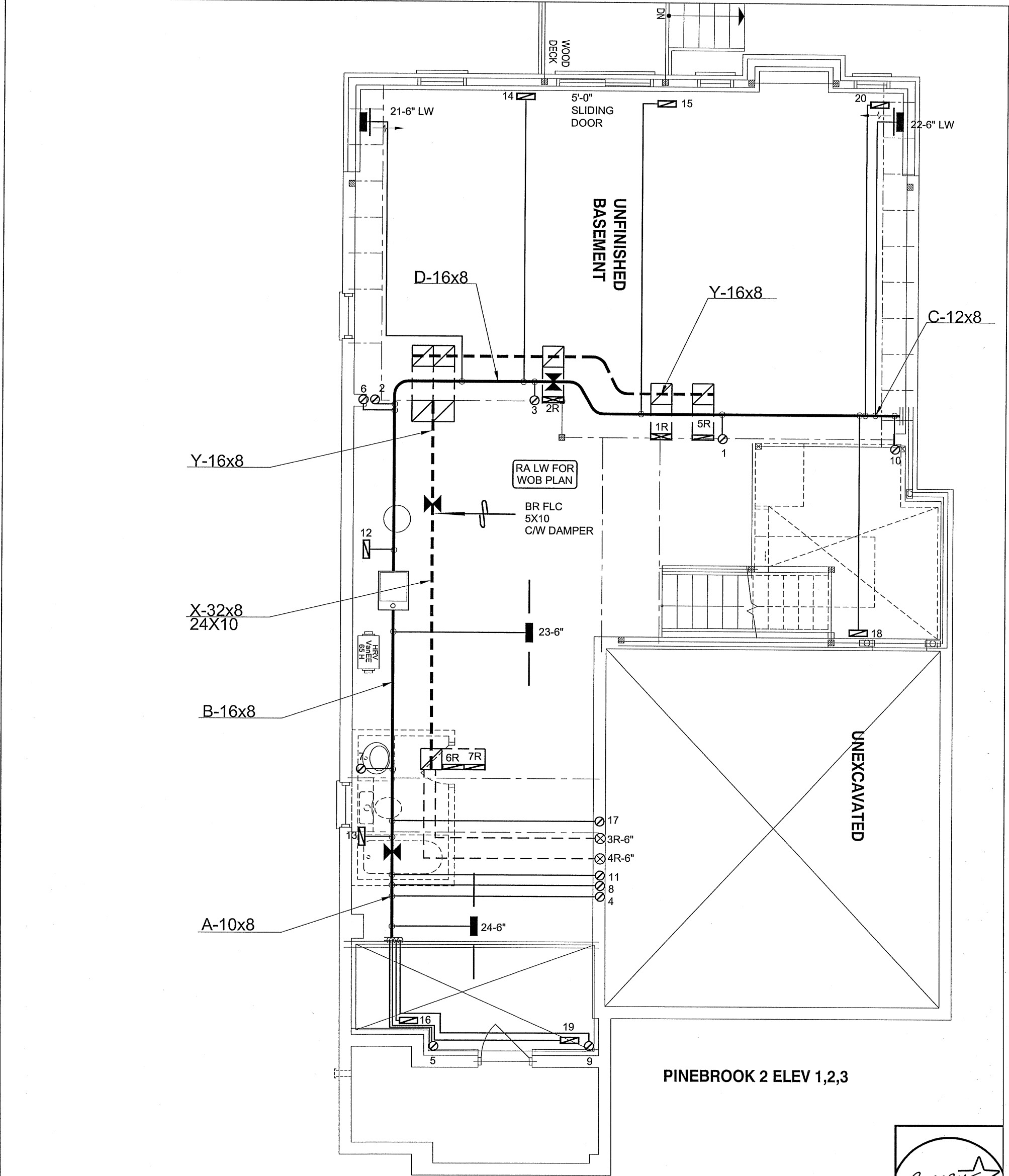
TYPE: PINEBROOK 2 WOB
LO# 80951

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

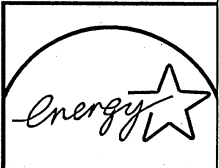
Weather Station Description			
Province:	Ontario		
Region:	Bradford		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	9.75		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1166.5		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1088.9 cm ²	
	2.50	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	73.2	73.2	
Flue Size			
Flue #:	#1	#2	#3 #4
Diameter (mm):	0	0	0 0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.292		
Cooling Air Leakage Rate (ACH/H):	0.091		

TYPE: PINEBROOK 2 WOB
LO# 80951



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.

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



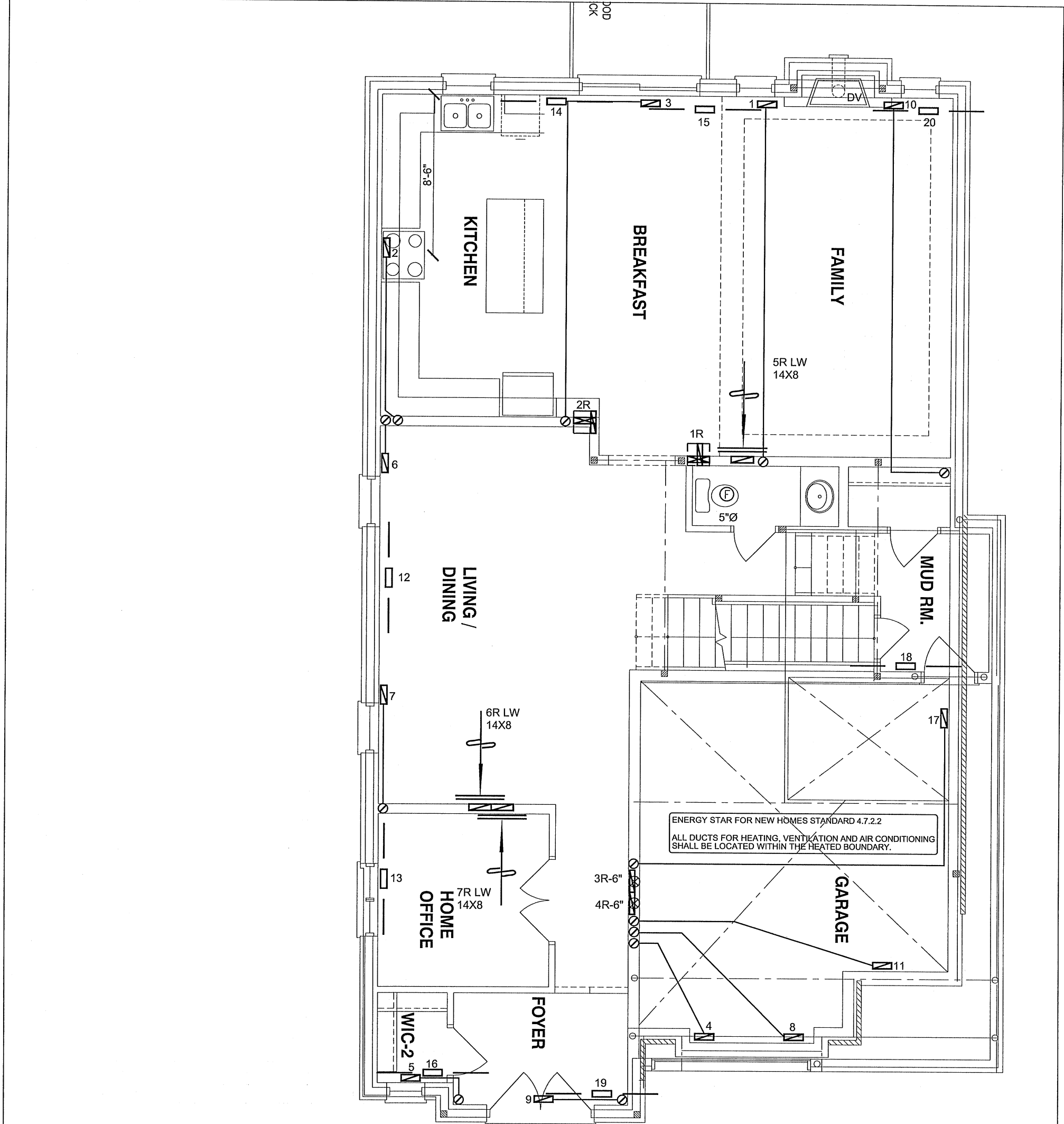
ENERGY STAR

WOB CSA-F280-12

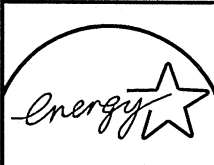
HVAC LEGEND								3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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Client GREENPARK HOMES		HVACDESIGNS LTD. 375 Finley Ave - Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 63958 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name SECONDO EAST GWILLIMBURY, ONTARIO WOB PINEBROOK 2 3046 sqft			MAKE GOODMAN	3RD FLOOR					Date DEC/2018	
			MODEL GMEC960803BNA	2ND FLOOR		12	4	3		
			INPUT 80 MBTU/H	1ST FLOOR		8	3	2		
			OUTPUT 76.8 MBTU/H	BASEMENT		4	1	0		
			COOLING 3.0 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A						
			FAN SPEED 1122 cfm @ 0.6" w.c.	Scale 3/16" = 1'-0"						
		BCIN# 19669								
		LO# 80951								



PINEBROOK 2 ELEV 1, 2, 3



ENERGY STAR

WOB

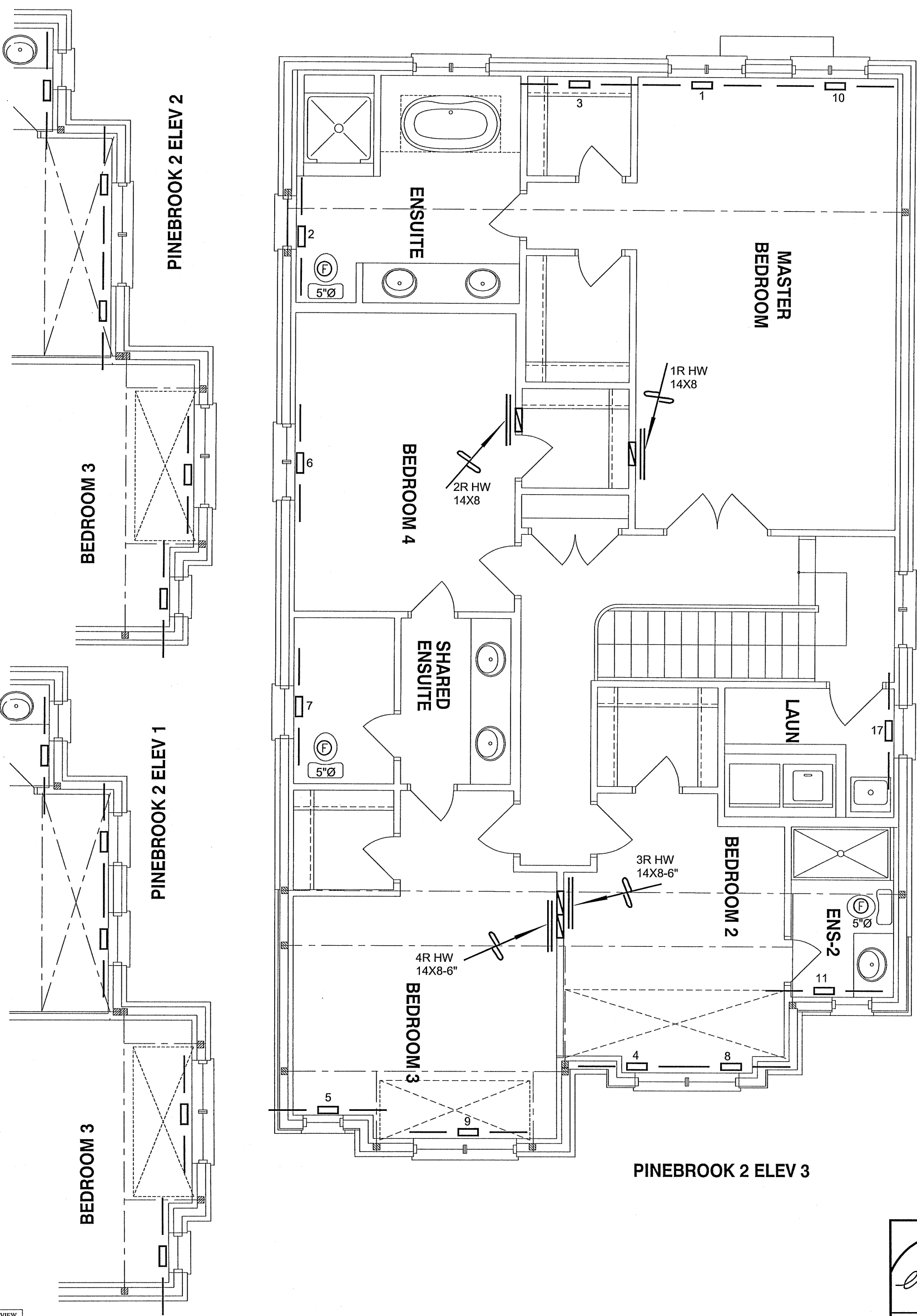
CSA-F280-12

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

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
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Client		 375 Finley Ave - Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	
GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	DEC/2018
SECONDO EAST GWILLIMBURY, ONTARIO			Scale	3/16" = 1'-0"
WOB PINEBROOK 2 3046 sqft			BCIN# 19669	
		LO#	80951	



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



ENERGY STAR

WOB CSA-F280-12

HVAC LEGEND								3.		
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Project Name SECONDO EAST GWILLIMBURY, ONTARIO			Date DEC/2018	
WOB PINEBROOK 2 3046 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 80951	