

SITE NAME: RUSSELL GARDENS PH 4

WOB

DATE: Jun-21

WINTER NATURAL AIR CHANGE RATE 0.356

HEAT LOSS AT °F. 71

CSA-F280-12

BUILDER: GREENPARK HOMES

TYPE: VALLEYCREEK 2

GFA: 2512

LO# 91342

SUMMER NATURAL AIR CHANGE RATE 0.127

HEAT GAIN AT °F. 13

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MRR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2
GRS.WALL AREA	LOSS	GAIN	333	287	72	261	288	135	81	81
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	19.8	16.0	0	0	0	0	0	0	0	7
EAST	19.8	41.6	0	0	17	336	706	0	0	138
SOUTH	19.8	24.9	0	0	8	158	199	15	297	373
WEST	19.8	41.6	35	592	1454	15	297	623	0	0
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	298	1235	224	184	763	138	55	228
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	358	427	210	129	154	76	29	35
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			2354		1371		667		2464	
SUB TOTAL HT GAIN				1889		1037		777		1536
LEVEL FACTOR / MULTIPLIER	0.20	0.27			0.20	0.27		0.20	0.27	
AIR CHANGE HEAT LOSS			628		366		178		657	
AIR CHANGE HEAT GAIN				129		71		53		105
DUCT LOSS			0		0		85		312	
DUCT GAIN			0		0		83		251	
HEAT GAIN PEOPLE	240		2	480	0	0	0	1	240	1
HEAT GAIN APPLIANCES/LIGHTS				625	0	0	0	625	625	625
TOTAL HT LOSS BTU/H			2982		1737		930		3433	
TOTAL HT GAIN x 1.3 BTU/H				4069		1440		1187		3583

ROOM USE	EXP. WALL	CLG. HT.	FAM	DIN	K/D	LAUND	W/R	FOY	WOB	BAS
GRS.WALL AREA	LOSS	GAIN	360	260	350	270	60	385	344	616
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	19.8	16.0	0	0	0	0	0	0	0	0
EAST	19.8	41.6	0	0	0	0	0	0	0	0
SOUTH	19.8	24.9	0	0	27	534	672	0	0	0
WEST	19.8	41.6	30	593	1247	0	0	0	63	1245
SKYLT.	34.6	101.5	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	330	1365	245	233	966	175	287	1190
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1961		1500		2435		1615	
SUB TOTAL HT GAIN				1495		847		2833		380
LEVEL FACTOR / MULTIPLIER	0.30	0.44			0.30	0.44		0.30	0.44	
AIR CHANGE HEAT LOSS			863		660		1072		711	
AIR CHANGE HEAT GAIN				102		58		194		26
DUCT LOSS			0		0		0		0	
DUCT GAIN			0		0		0		0	
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				625	625	625	625	625	625	625
TOTAL HT LOSS BTU/H			2824		2160		3507		2326	
TOTAL HT GAIN x 1.3 BTU/H				2888		1989		4748		1339

TOTAL HEAT GAIN BTU/H:

35617

TONS: 2.97

LOSS DUE TO VENTILATION LOAD BTU/H: 1515

STRUCTURAL HEAT LOSS: 44752

TOTAL COMBINED HEAT LOSS BTU/H: 48268

SITE NAME: RUSSELL GARDENS PH 4
BUILDER: GREENPARK HOMES

WOB
TYPE: VALLEYCREEK 2

DATE: Jun-21

GFA: 2612 LO# 91342

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 44,752 TOTAL HEAT GAIN 35,342
AIR FLOW RATE CFM 25.27 AIR FLOW RATE CFM 32

#GOODMAN
GMEC960603BNA 60

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	4
R/A	0	0	3	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'10" unless noted otherwise on layout.

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35
plenium pressure s/a 0.18
max s/a diff press. loss 0.02
min adjusted pressure s/a 0.16
r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131

DESIGN CFM = 1131
CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	FAM	DIN	K/D	K/D	LAUND	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.49	1.74	0.93	1.72	1.55	1.37	0.89	1.72	1.55	1.49	0.73	2.82	2.16	1.75	1.75	2.33	0.52	3.55	3.68	3.68	3.68	3.68
CFM PER RUN HEAT	38	44	23	43	39	35	23	43	39	38	19	71	55	44	44	59	13	90	93	93	93	93
RM GAIN MBH	2.03	1.44	1.19	1.79	2.40	1.97	0.51	1.79	2.40	2.03	0.32	2.89	1.99	2.37	2.37	1.34	0.30	0.62	1.40	1.40	1.40	1.40
CFM PER RUN COOLING	65	46	38	57	77	63	16	57	77	65	10	92	64	76	76	43	10	20	45	45	45	45
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	47	29	45	55	54	19	36	49	61	38	48	31	34	39	28	29	32	36	51	51	29	39
EQUIVALENT LENGTH	140	150	130	150	150	120	160	140	150	140	180	120	100	140	120	120	160	100	130	170	150	130
TOTAL EFFECTIVE LENGTH	187	179	175	205	204	139	196	189	211	178	228	151	134	179	148	149	192	136	181	221	179	169
ADJUSTED PRESSURE	0.09	0.1	0.1	0.08	0.08	0.12	0.09	0.09	0.08	0.1	0.08	0.11	0.13	0.1	0.12	0.12	0.09	0.12	0.09	0.07	0.09	0.1
ROUND DUCT SIZE	5	4	4	5	6	6	4	5	6	5	4	6	6	5	5	5	4	6	6	6	6	6
HEATING VELOCITY (ft/min)	279	505	264	316	199	178	264	316	199	279	218	362	280	323	323	433	149	459	474	474	474	474
COOLING VELOCITY (ft/min)	477	528	436	419	393	321	184	419	393	477	115	469	326	558	558	316	115	102	229	229	229	229
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	D	C	B	B	A	C	B	B	A	D	B	C	B	D	D	C	A	A	C	B	A	A

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	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
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Building Division

Permit No. 20-187704-02

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

FOR CHIEF BUILDING OFFICIAL

SUPPLY AIR TRUNK SIZE

TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK A 367	0.08	9.6	10	861	TRUNK G 0	0.00	0	0	0
TRUNK B 573	0.08	11.4	16	845	TRUNK H 0	0.00	0	0	0
TRUNK C 302	0.09	8.7	10	544	TRUNK I 0	0.00	0	0	0
TRUNK D 257	0.07	8.7	10	463	TRUNK J 0	0.00	0	0	0
TRUNK E 559	0.07	11.7	16	629	TRUNK K 0	0.00	0	0	0
TRUNK F 0	0.00	0	0	0	TRUNK L 0	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK O 0	0.06	0	0	0
TRUNK P 0	0.06	0	0	0
TRUNK Q 0	0.06	0	0	0
TRUNK R 0	0.06	0	0	0
TRUNK S 0	0.06	0	0	0
TRUNK T 0	0.06	0	0	0
TRUNK U 0	0.06	0	0	0
TRUNK V 0	0.06	0	0	0
TRUNK W 0	0.06	0	0	0
TRUNK X 821	0.06	14	22	672
TRUNK Y 310	0.06	9.7	12	465
TRUNK Z 0	0.06	0	0	0
DROP 1131	0.06	15.8	24	679

RETURN AIR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	155	135	240	155	310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	56	53	54	44	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	175	180	190	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	241	228	234	234	148	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.06	0.06	0.06	0.10	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.5	7.1	8.8	7.5	8.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	30	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: VALLEYCREEK 2
 SITE NAME: RUSSELL GARDENS PH 4

 LO # 91342
 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	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A. TOTAL		169.6 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	169.6	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	90.1	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
79.5 cfm	3.0 sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 CFM	X 71 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
BATH	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H		
150 cfm high	35 cfm low	
75 % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: 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:	June-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 91342

Model: VALLEYCREEK 2

Builder: GREENPARK HOMES

Date: 2021-06-21

Volume Calculation

House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1158	8	9264
First	1158	10	11580
Second	1432	9	12888
Third	0	9	0
Fourth	0	9	0
Total:			33,732.0 ft ³
Total:			955.2 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.356
SUMMER NATURAL AIR CHANGE RATE	0.127

Design Temperature Difference				
	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-17	39	71
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

$$0.356 \times 265.33 \times 39^\circ\text{C} \times 1.2 = 4444 \text{ W}$$

$$= 15164 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

$$0.127 \times 265.33 \times 7^\circ\text{C} \times 1.2 = 288 \text{ W}$$

$$= 984 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

$$80 \text{ CFM} \times 71^\circ\text{F} \times 1.08 \times 0.25 = 1515 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

$$80 \text{ CFM} \times 13^\circ\text{F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$$

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) + (HL_{agcleve} + HL_{bgcleve})\}$$

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	15,164	7,118	1.065
2	0.3		10,334	0.440
3	0.2		11,378	0.267
4	0		0	0.000
5	0		0	0.000

*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: VALLEYCREEK 2	WOB	BUILDER: GREENPARK HOMES
SFQT: 2612	LO# 91342	SITE: RUSSELL GARDENS PH 4

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	33732.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.0 ft
LENGTH: 50.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	123.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	43.0 ft

2012 OBC - COMPLIANCE PACKAGE

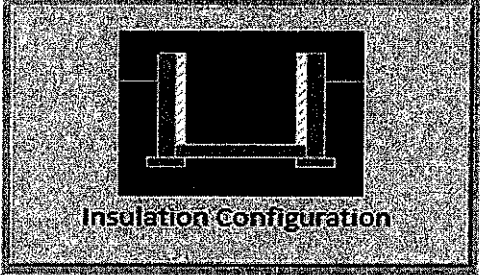
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

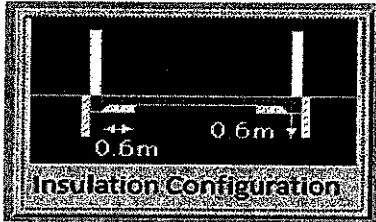
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	37.5	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.28	
Window Area (m ²):	0.4	
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):	672	

TYPE: VALLEYCREEK 2
LO# 91342

WOB

Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
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):	10.1	
Exposed Perimeter (m):	13.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		162

TYPE: VALLEYCREEK 2
LO# 91342

WOB

Air Infiltration Residential Load Calculator

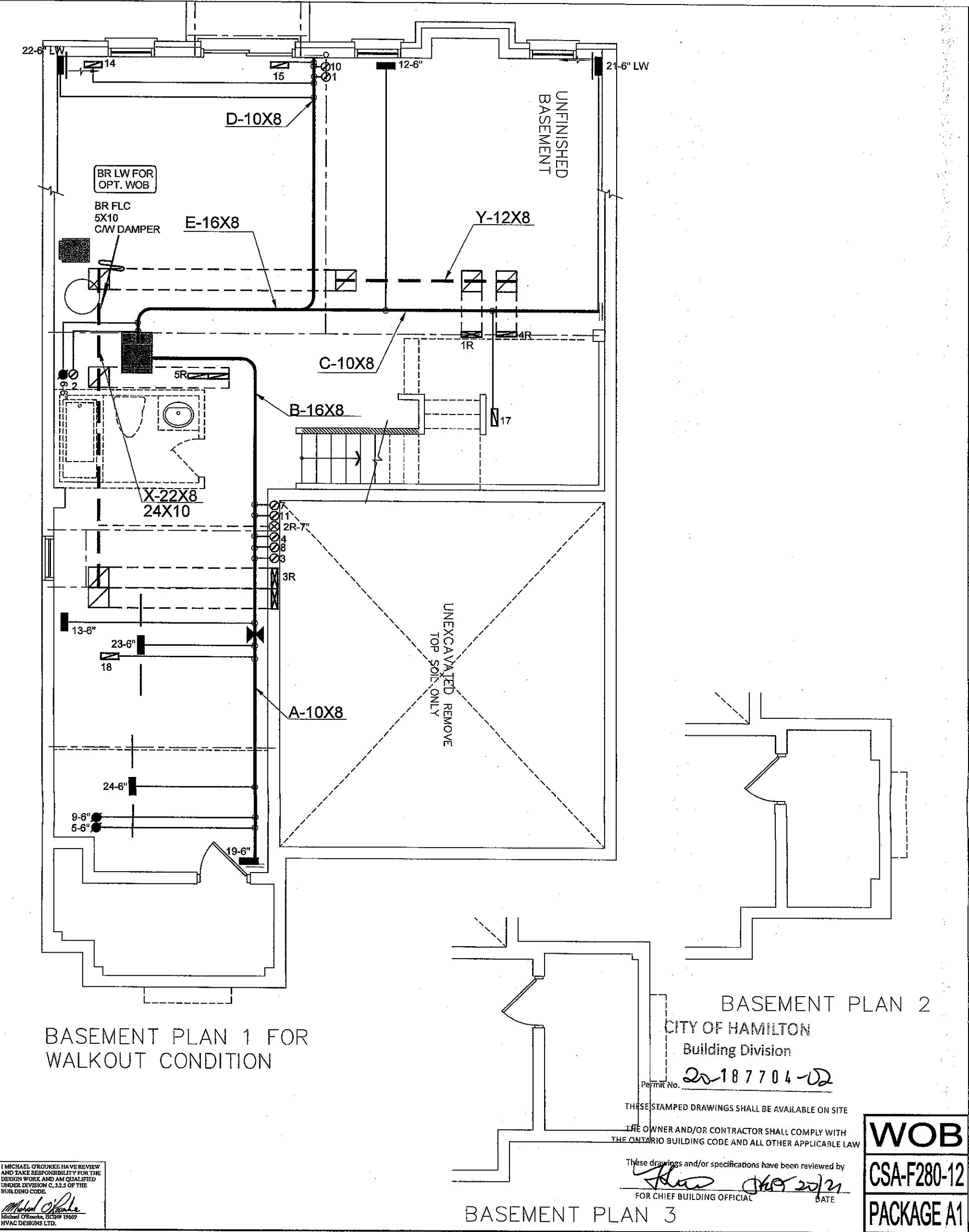
Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Hamilton		
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):	8.23		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	955.2		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1273.3 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
	#4		
	0		
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.356		
Cooling Air Leakage Rate (ACH/H):	0.127		

TYPE: VALLEYCREEK 2

WOB

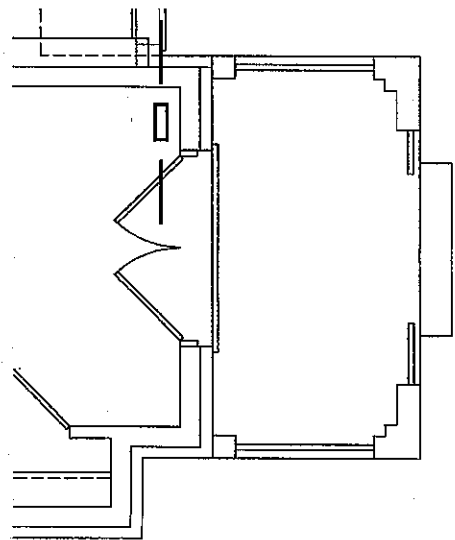
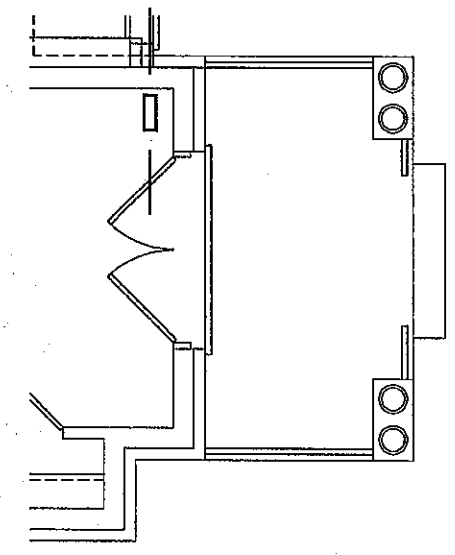
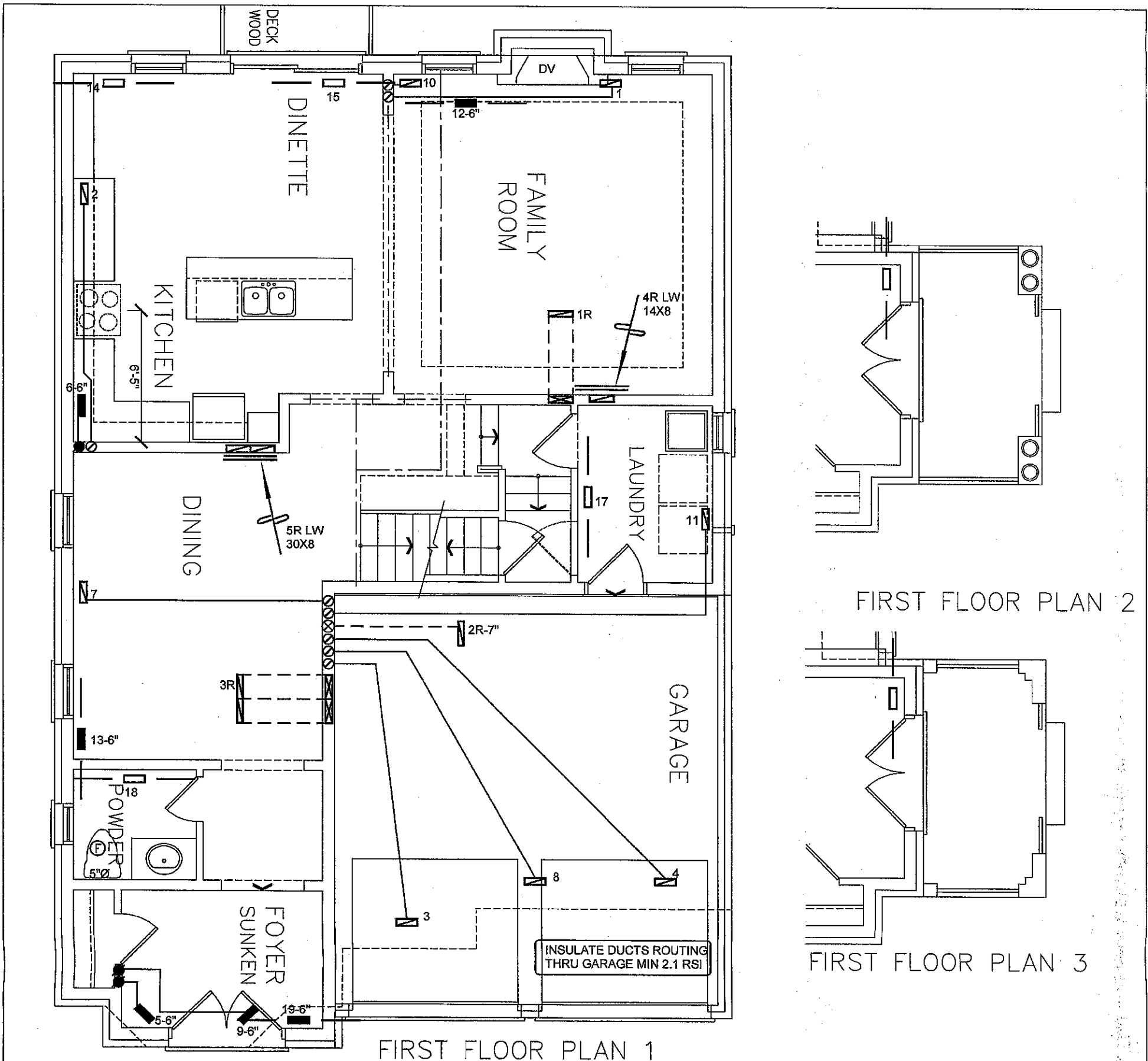
LO# 91342



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 32.5 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.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		
ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.										
Client GREENPARK HOMES		375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.			HEAT LOSS 46268 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title BASEMENT HEATING LAYOUT	
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO					MAKE GOODMAN		3RD FLOOR		Date JUNE/2021	
WOB VALLEYCREEK 2 2612 sqft		MODEL GMEC960603BNA		2ND FLOOR 11 3 3		Scale 3/16" = 1'-0"				
		INPUT 60 MBTU/H		1ST FLOOR 7 2 2		BCIN# 19669				
		OUTPUT 57.6 MBTU/H		BASEMENT 4 1 0		LO# 91342				
		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 1131 cfm @ 0.6" w.c.								



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION 6, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CITY OF HAMILTON
Building Division

Permit No. 20187704-02

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE
THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH
THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by
[Signature] *[Signature]*
FOR CHIEF BUILDING OFFICIAL DATE

WOB
CSA-F280-12
PACKAGE A1

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

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Client GREENPARK HOMES	HVAC DESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services	Sheet Title FIRST FLOOR HEATING LAYOUT
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO	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.	Date JUNE/2021
WOB VALLEYCREEK 2 2612 sqft		Scale 3/16" = 1'-0"
		BCIN# 19669
		LO# 91342

