

MHP 23037

SITE NAME: ZADORRA ESTATES INC				CORPORATION OF THE CITY OF OSHAWA				DATE: Jul-23				WINTER NATURAL AIR CHANGE RATE 0.367				HEAT LOSS ΔT °F. 74				CSA-F280-12			
BUILDER: GREENPARK HOMES				TYPE: VILLAGE				LO# 101812				SUMMER NATURAL AIR CHANGE RATE 0.101				HEAT GAIN ΔT °F. 11				SB-12 PACKAGE A1			
ROOM USE				ENS-25				BED-2				BED-3				BED-4				ENS2/3			
EXP. WALL				13				13				31				8				14			
CLG. HT.				9				9				9				9				9			
FACTORS				297				117				279				72				126			
GRS.WALL AREA				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
GLAZING				20.8 15.5				20.8 15.5				20.8 15.5				20.8 15.5				20.8 15.5			
NORTH				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
EAST				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
SOUTH				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
WEST				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
SKYLT.				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
DOORS				0 0 0				0 0 0				0 0 0				0 0 0				0 0 0			
NET EXPOSED WALL				4.4 0.6				202 880 130				63 274 41				97 423 63				238 1037 154			
NET EXPOSED BSMT WALL ABOVE GR				3.5 0.5				0 0 0				0 0 0				0 0 0				0 0 0			
EXPOSED CLG				1.3 0.6				310 388 173				159 199 89				72 90 40				153 192 85			
NO ATTIC EXPOSED CLG				2.7 1.2				0 0 0				0 0 0				0 0 0				0 0 0			
EXPOSED FLOOR				2.5 0.4				0 0 0				0 0 0				0 0 0				0 0 0			
BASEMENT/CRAWL HEAT LOSS				0				0				0				0				0			
SLAB ON GRADE HEAT LOSS				0				0				0				0				0			
SUBTOTAL HT LOSS				2011				1557				365				1030				2722			
SUB TOTAL HT GAIN				1173				1047				81				457				2058			
LEVEL FACTOR / MULTIPLIER				0.20 0.29				0.20 0.29				0.20 0.29				0.20 0.29				0.20 0.29			
AIR CHANGE HEAT LOSS				575				445				104				295				779			
AIR CHANGE HEAT GAIN				74				66				5				29				131			
DUCT LOSS				0				0				0				350				287			
DUCT GAIN				0				0				0				0				0			
HEAT GAIN PEOPLE				240				2				480				0				1			
HEAT GAIN APPLIANCES/LIGHTS				631				0				0				1				240			
TOTAL HT LOSS BTU/H				2586				2003				469				1324				3851			
TOTAL HT GAIN x 1.3 BTU/H				3065				1447				112				1764				4375			

ROOM USE			DIN			KT/BF			FAM			LAUN			PWD			FOY			MUD									WOB			BAS					
EXP. WALL			13			49			33			6			12			39			27									38			134					
CLG. HT.			10			10			10			9			10			10			10									9			9					
FACTORS																																						
GRS.WALL AREA			LOSS			GAIN																																
GLAZING			130			490			330			54			120			390			270									342			804					
			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN		
NORTH			20.8	15.5		25	519	387	47	976	727	0	0	0	0	0	0	22	457	340	0	0	0				57	1184	882	3	62	46						
EAST			20.8	41.0		0	0	0	0	0	0	0	0	0	0	0	0	22	457	903	0	0	0				0	0	0	0	0	0						
SOUTH			20.8	24.4		0	0	0	25	519	610	0	0	0	7	145	171	7	145	171	0	0	0				0	0	0	6	125	146						
WEST			20.8	41.0		0	0	0	11	229	452	22	457	903	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0						
SKYLT.			36.4	100.7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0							
DOORS			19.6	2.9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	411	61				0	0	0	21	411	61						
NET EXPOSED WALL			4.4	0.6		105	457	68	407	1773	263	308	1342	199	47	205	30	113	492	73	346	1508	223	249	1085	161	285	1242	184	0	0	0						
NET EXPOSED BSMT WALL ABOVE GR			3.5	0.5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	402	1412	209						
EXPOSED CLG			1.3	0.6		0	0	0	0	0	0	0	0	0	62	78	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
NO ATTIC EXPOSED CLG			2.7	1.2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
EXPOSED FLOOR			2.5	0.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
BASEMENT/CRAWL HEAT LOSS																																						
SLAB ON GRADE HEAT LOSS																																						
SUBTOTAL HT LOSS						977			3498			1799			428			638			2422			1496			457					2259						
SUB TOTAL HT GAIN							455			2051			1102			236			244			1467			222			2883				463						
LEVEL FACTOR / MULTIPLIER			0.30	0.50		0.30	0.50			0.30	0.50		0.20	0.29			0.30	0.50		0.30	0.50		0.30	0.50					0.50	1.26								
AIR CHANGE HEAT LOSS						488			1747			899			122			319			1210			747							9016							
AIR CHANGE HEAT GAIN							29			130			70			15			15			93			14							97						
DUCT LOSS						0			0			0			0			0			0			0							0							
DUCT GAIN							0			0			0			0			0			0			0						0							
HEAT GAIN PEOPLE			240			0		0	0		0		0		0		0		0		0		0		0		0			0		0						
HEAT GAIN APPLIANCES/LIGHTS							631			631			0			631			0			0			0					0		631						
TOTAL HT LOSS BTU/H						1465			5245			2698			550			956			3631			2243			2883				13285							
TOTAL HT GAIN x 1.3 BTU/H							1448			3656			1524			1146			337			2028			307				1386			1544						

BUILDER: GREENPARK HOMES CORPORATION OF THE CITY OF OSHAWA TYPE: VILLA 7

LO# 101812

min adjusted pressure s/a 0.17

max s/a dif press. loss 0.01

MICHAEL O'ROURKE

MHP 23037TYPE: VILLA 7
SITE NAME: ZADORRA ESTATES INCLO # 101812
WOR**RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY****COMBUSTION APPLIANCES**

- 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	4	@ 10.6 cfm	42.4	cfm
Other Rooms	3	@ 10.6 cfm	31.8	cfm
Table 9.32.3.A.	TOTAL		148.4	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	148.4	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	68.9	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEV V150H Location: BSMT

79.5 cfm ☒ HVI Approved**PRINCIPAL EXHAUST HEAT LOSS CALCULATION**

CFM		ΔT °F		FACTOR		% LOSS
79.5 CFM	X	74 F	X	1.08	X	0.25

SUPPLEMENTAL FANS**BY INSTALLING CONTRACTOR**

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS2/3	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR**9.32.3.11.**

Model: VANEV V150H

150 cfm high 35 cfm low

75 % 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:

HRAI #

001820

Date:

July-23

MHP 23037CORPORATION OF THE CITY OF OSHAWA
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Nov 11 2023

C. M...

PER: VILLA 7 CHIEF BUILDING OFFICIAL

280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 101812

Model:

VILLA 7

Builder: GREENPARK HOMES

Date: 2023-07-14

Volume Calculation**House Volume**

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1213	9	10917
First	1213	10	12130
Second	1547	9	13923
Third	0	9	0
Fourth	0	9	0
Total:			36,970.0 ft ³
Total:			1046.9 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.367
SUMMER NATURAL AIR CHANGE RATE	0.101

Design Temperature Difference				
	T _{in} °C	T _{out} °C	ΔT °C	ΔT °F
Winter DTD _h	22	-19	41	74
Summer DTD _c	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

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

$$0.367 \times 290.80 \times 41^\circ\text{C} \times 1.2 = 5285 \text{ W}$$

$$= 18032 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

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

$$0.101 \times 290.80 \times 6^\circ\text{C} \times 1.2 = 215 \text{ W}$$

$$= 735 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

$$80 \text{ CFM} \times 74^\circ\text{F} \times 1.08 \times 0.25 = 1593 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

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

$$80 \text{ CFM} \times 11^\circ\text{F} \times 1.08 \times 0.25 = 236 \text{ Btu/h}$$

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

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HL _{airve} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{clevel})
1	0.5	18,032	7,152	1.261
2	0.3		10,829	0.500
3	0.2		12,609	0.286
4	0		0	0.000
5	0		0	0.000

*HL_{airbv} = Air leakage heat loss + ventilation heat loss*For a balanced or supply only ventilation system HL_{airve} = 0Michael O'Rourke
BCIN# 19669*Michael O'Rourke*

HEAT LOSS AND GAIN SUMMARY SHEET

MHP 23037

MODEL: VILLA 7

SFQT: 2741

1/10B COPY
OF PERMIT PLANS
LO# 101812
Nov 11 2023

BUILDER: GREENPARK HOMES

SITE: ZADORRA ESTATES INC

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

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):	36970.0	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: 57.0 ft	WIDTH: 29.0 ft	EXPOSED PERIMETER:	134.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	38.0 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	-

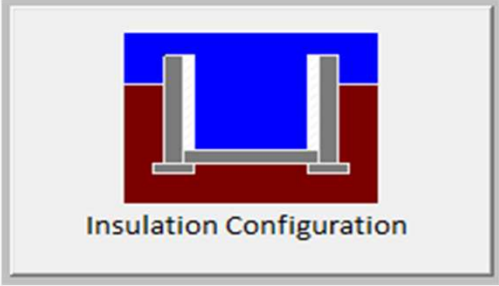
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

MHP 23037**Residential Form Thermal Load Calculator**

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oshawa	
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	
Floor Width (m):	8.8	
Exposed Perimeter (m):	40.8	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.51	
Window Area (m ²):	0.8	
Door Area (m ²):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		662

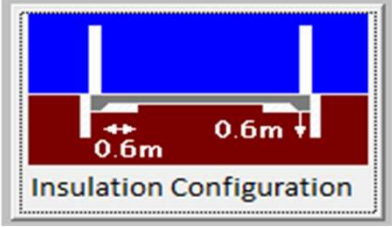
TYPE: VILLA 7
LO# 101812

WOB

MHP 23037

Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oshawa	
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):	8.5	
Exposed Perimeter (m):	11.6	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		134

TYPE: VILLA 7
LO# 101812

WOB



Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

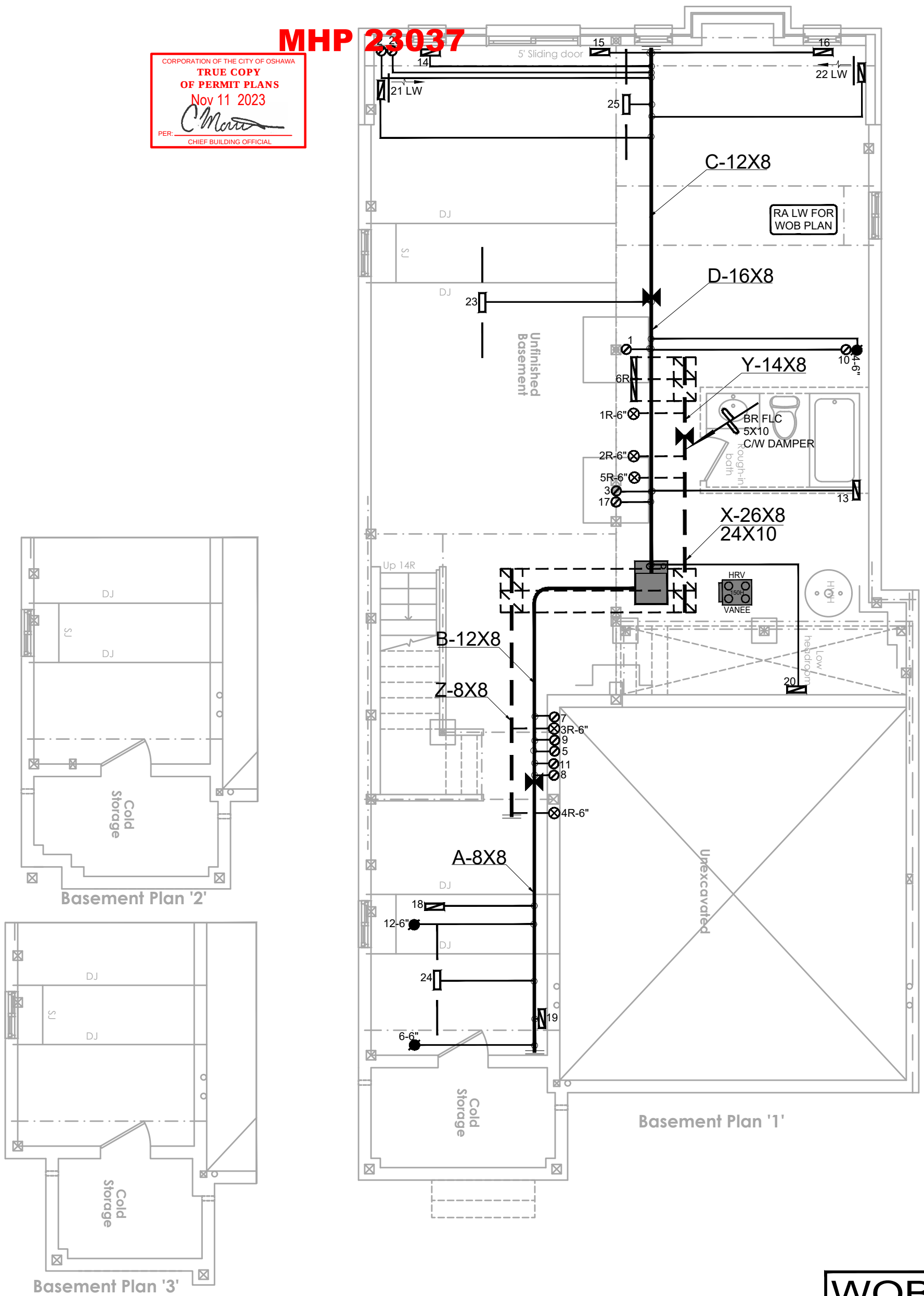
Weather Station Description				
Province:	Ontario			
Region:	Oshawa			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1046.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1395.5 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	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.367			
Cooling Air Leakage Rate (ACH/H):	0.101			

TYPE: VILLA 7
LO# 101812

WOB

CORPORATION OF THE CITY OF OSHAWA
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 PER: _____
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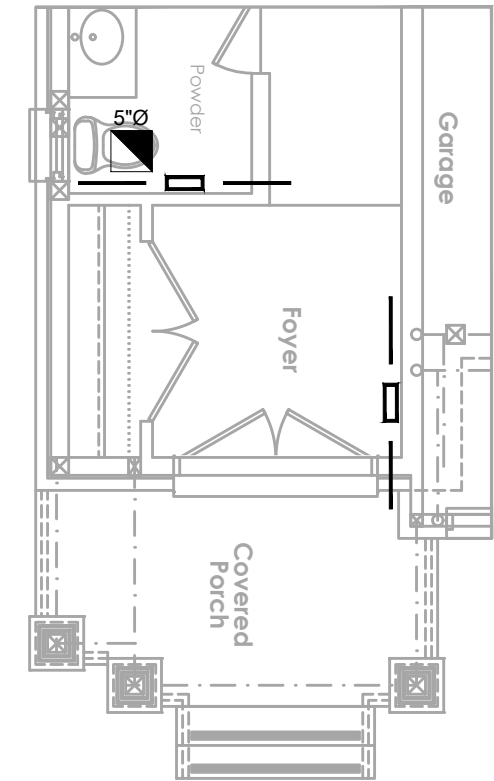


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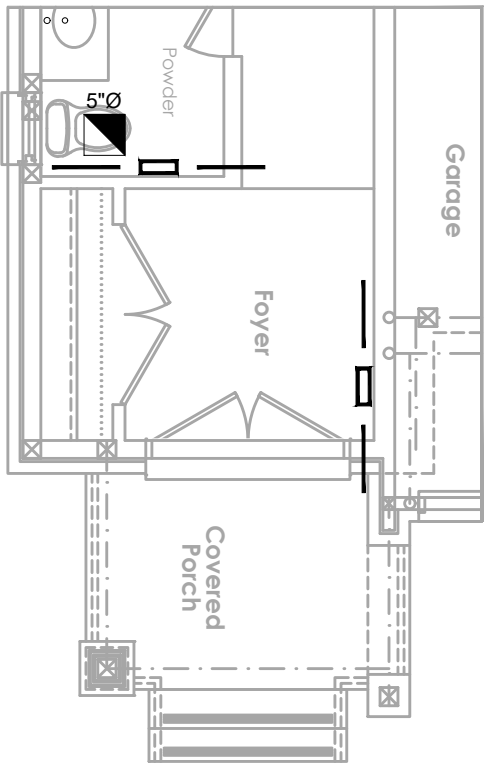
HVAC LEGEND						3.							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.					
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.					
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		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.						I Michael O'Rourke have reviewed and take responsibility for the design work and am qualified under division C,3.2.5 of the building code.		 Michael O'Rourke BCIN # 19669 HVAC Designs Ltd.		PACKAGE A1			
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.				HEAT LOSS 51143 BTU/H		# OF RUNS S/A R/A FANS		Sheet Title			
GREENPARK HOMES						UNIT DATA		3RD FLOOR		BASEMENT HEATING LAYOUT			
Project Name						GOODMAN		2ND FLOOR 14 5 4		Date			
ZADORRA						MODEL		1ST FLOOR 7 1 2		Scale			
OSHAWA, ONTARIO						INPUT		BASEMENT 5 1 0		BCIN# 19669			
WOB						OUTPUT		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"xØ UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A		LO#			
VILLA 7						60.0 MBTU/H		2.5 TONS		928 cfm @ 0.6" w.c.		101812	
2741 sqft						FAN SPEED							

MHP 23037

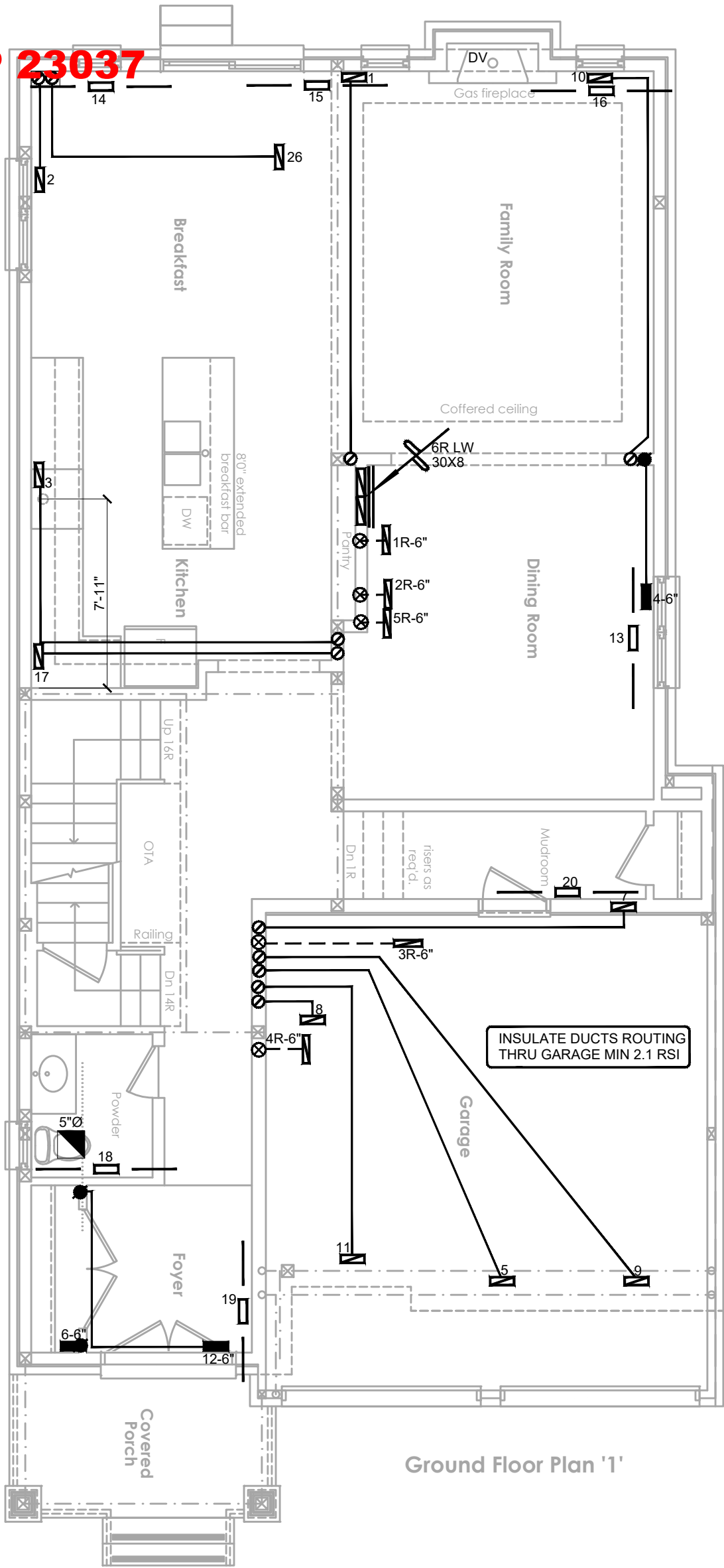
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Nov 11 2023
PER: *C. Morris*
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Ground Floor Plan '2'



Ground Floor Plan '3'



Ground Floor Plan '1'

WOB

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		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	
ZADORRA OSHAWA, ONTARIO										JULY/2023	
WOB VILLA 7										Scale	
2741 sqft						BCIN# 19669		LO#		101812	

MHP 23037

CORPORATION OF THE CITY OF OSHAWA

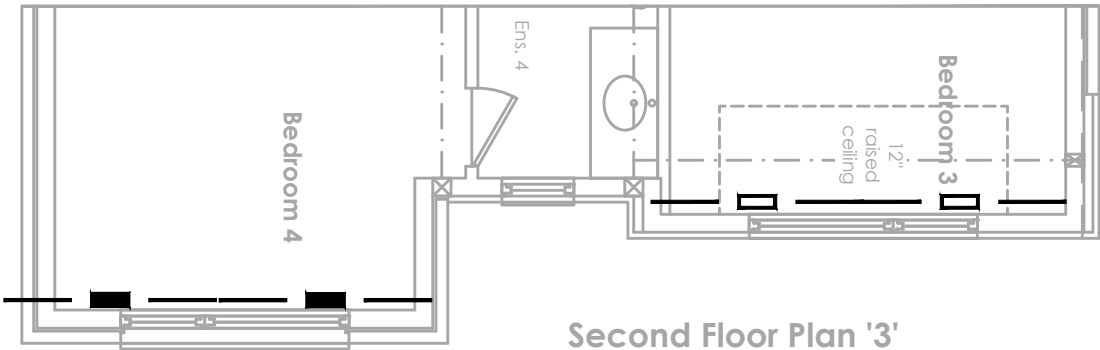
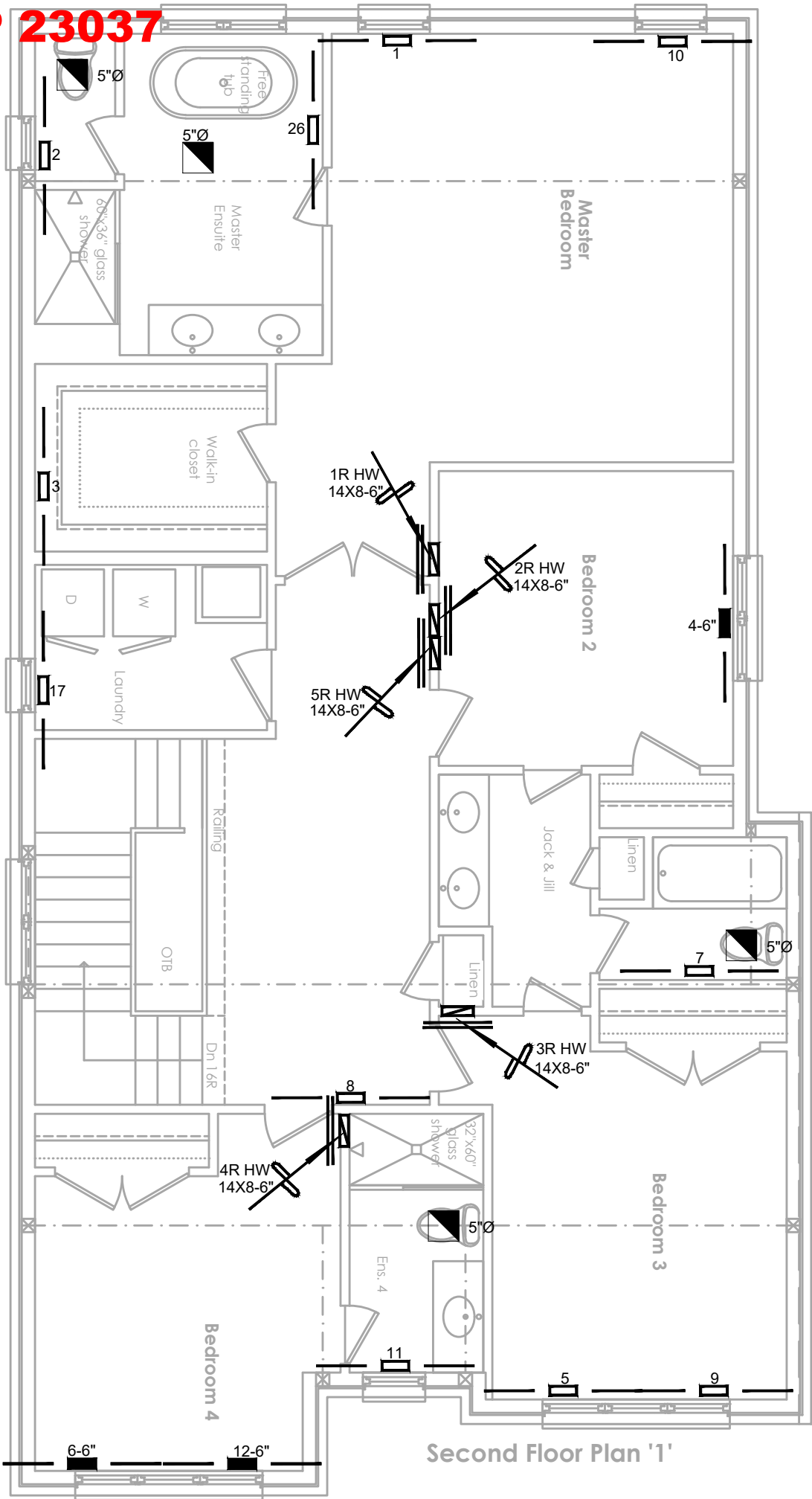
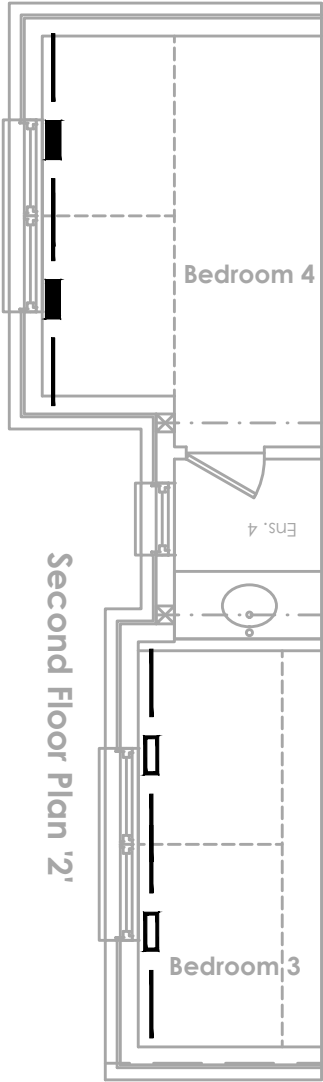
TRUE COPY

OF PERMIT PLANS

Nov 11 2023

PER: 

CHIEF BUILDING OFFICIAL



WOB

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		I Michael O'Rourke have reviewed and take responsibility for the design work and am qualified under division C.3.2.5 of the building code.					 Michael O'Rourke BCIN # 19669 HVAC Designs Ltd.		Sheet Title	
GREENPARK HOMES		 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					SECOND FLOOR HEATING LAYOUT		Date JULY/2023	
Project Name		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.					Scale 3/16" = 1'-0"		BCIN# 19669	
ZADORRA OSHAWA, ONTARIO							LO# 101812			
WOB VILLA 7		2741 sqft								