



**CITY OF BRAMPTON – BUILDING DIVISION**

**HVAC DESIGNS**

APPLICATION NO.:	19-567625 000 00 CM	FOLDER TYP.:	<b>CM</b>
DESCRIPTION OF PROJECT:	PLAN M2039	SUB TYP.:	<b>Single Family Detached</b>
BUILDERS NAME:	<b>GOLD PARK HOMES</b>		
PLAN NUMBER:		MODEL NAME:	<b>2017/38-11</b>

**CERTIFIED MODEL DOCUMENTS**

PAGES:	DESCRIPTION OF DOCUMENTS	
<b>D</b>	<b>HVAC LAYOUTS / HVAC CALCULATIONS</b>	
	ELEVATION	DESCRIPTION (I.E. OPTIONS):
2		4 Bedrooms
3		
ENTERED BY:	Name	DATE: 2019/12/13

## WATER PIPE SIZING AND PLUMBING DATA SHEET

## CERTIFIED MODEL WITH ONE DWELLING UNIT

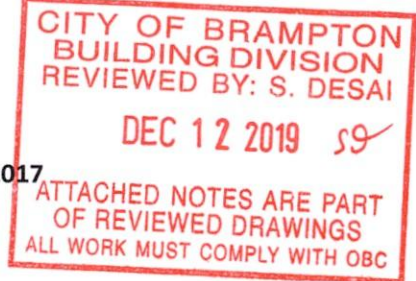
THIS TABLE IS APPLICABLE FOR A HOUSE AFTER DECEMBER 31, 2017

Builder Name: Fieldwalk Investments Inc.

Certified Model Name: 38-11

Optional Floor Layout:

Application No.:



The Ontario Building Code Div. B, 7.6.3 regulates size and capacity of pipes for a new house. Please enter the number of individual fixtures as listed and bathroom groups<sup>(6)</sup> or powder room groups<sup>(7)</sup> per floor. The fixture units and required minimum size of water service will automatically be calculated.

Description	Basement Floor	First Floor	Second Floor	Third Floor
	Qty.	Qty.	Qty.	Qty.
Bathroom group <sup>(6)</sup>	1 ✓	0	3 ✓	0
Bidet	0	0	0	0
Extra Shower	0	0	0 1	0
Lav	0	1 0	3 2	0
Bar Sink	0	0	0	0
Powder room <sup>(7)</sup>	0	1 ✓	0	0
Kitchen Sink	0	1 ✓	0	0
Dishwasher	0	1	0	0
Laundry Tub	0	0	1	0
Washing Machine	0	0	1 ✓	0
Hose Bib	0	2 ✓	0	0

Total Fixture Units

~~27.9~~ 30.7
 Minimum Diameter of Water Service Pipe  
 Required from the Property Line to the  
 House (Inch)

1

Notes:

- (1) A potable water system shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances, such as that described in the ASHRAE Handbooks and ASPE Data Books.
- (2) No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater that serves more than one fixture shall be less than ¾ in. in size.
- (3) The minimum water pressure at the entry to the building is 200 kPa, and the total maximum length of the water system is 90 m.
- (4) In a hot water distribution system of a developed length of more than 30 m from the HWT to the farthest fixture or supplying more than 4 storeys, the water temperature shall be maintained by, (a) recirculation, or (b) a self-regulating heat tracing system.
- (5) Where piping may be exposed to freezing conditions, it shall be protected from the effects of freezing.
- (6) A bathroom group consists of 1 water closet, 1 lavatory, and 1 bathtub (with or without showerhead)
- (7) A powder room group consists of 1 water closet and 1 lavatory.



# Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

## A. Project Information

Building number, street name		Unit number 38-11 'A'	Lot/Con
Municipality BRAMPTON	Postal code	Reg. Plan number / other description	

## B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: A1 Table: 3.1.1.2.A

## C. Project Design Conditions

<b>Climatic Zone (SB-1):</b>	<b>Heating Equipment Efficiency</b>	<b>Space Heating Fuel Source</b>
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days)	<input checked="" type="checkbox"/> ≥ 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 84% < 92% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
<b>Ratio of Windows, Skylights &amp; Glass (W, S &amp; G) to Wall Area</b>		<b>Other Building Characteristics</b>
Area of walls = 330.74 m <sup>2</sup> or 3,560.09 ft <sup>2</sup>		<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement
W, S & G % = 11.01		<input type="checkbox"/> Slab-on-ground <input type="checkbox"/> Walkout Basement
Area of W, S & G = 36.43 m <sup>2</sup> or 392.12 ft <sup>2</sup>		<input type="checkbox"/> Air Conditioning <input type="checkbox"/> Combo Unit
Utilize window averaging: <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Air Sourced Heat Pump (ASHP)
		<input type="checkbox"/> Ground Sourced Heat Pump (GSHP)

## D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions			
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6)) <input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))			
<input type="checkbox"/> Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)		<input type="checkbox"/> Table 3.1.1.4.B Required: _____ Permitted Substitution: _____ <input type="checkbox"/> Table 3.1.1.4.C Required: _____ Permitted Substitution: _____ Required: _____ Permitted Substitution: _____	
Building Component	Minimum RSI / R values or Maximum U-Value <sup>(1)</sup>	Building Component	Efficiency Ratings
<b>Thermal Insulation</b>	Nominal Effective	<b>Windows &amp; Doors</b> Provide U-Value <sup>(1)</sup> or ER rating	
Ceiling with Attic Space	60 59.22	Windows/Sliding Glass Doors	0.28
Ceiling without Attic Space	31 27.65	Skylights/Glazed Roofs	0.49
Exposed Floor	31 29.80	<b>Mechanicals</b>	
Walls Above Grade	22 17.03	Heating Equip.(AFUE)	96%
Basement Walls	20 ci 21.12	HRV Efficiency (SRE% at 0° C)	75%
Slab (all >600mm below grade)	- -	DHW Heater (EF)	0.80
Slab (edge only ≤600mm below grade)	10	DWHR (CSA B55.1 (min. 42% efficiency))	# Showers <sup>3</sup>
Slab (all ≤600mm below grade, or heated)	10 11.13	Combined Heating System	

(1) U value to be provided in either W/(m<sup>2</sup>·K) or Btu/(h·ft<sup>2</sup>·F) but not both.

## E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.		
Name Jorge Moreno	BCIN 47245	Signature 



## GOLD PARK

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>			
Building number, street name		Unit no.	Lot/con.
Municipality <b>Brampton</b>	Postal code	Plan number/ other description <b>43M-2039</b>	
<b>B. Individual who reviews and takes responsibility for design activities</b>			
Name <b>DORIS LEUNG</b>		Firm <b>EWP DESIGN INC.</b>	
Street address <b>7630 AIRPORT ROAD</b>		Unit no.	Lot/con.
Municipality <b>MISSISSAUGA</b>	Postal code <b>L4T 4G6</b>	Province <b>ON</b>	E-mail
Telephone number <b>905-832-2250</b>	Fax number	Cell number	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>			
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings		<input type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection	
		<input checked="" type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems	
Description of designer's work <b>ROOF TRUSS ENGINEERING AND LAYOUT</b> <b>FLOOR I-JOIST ENGINEERING AND LAYOUT</b> <b>Model 38-11 A, B, with all options and corner</b>			
<b>D. Declaration of Designer</b>			
I <u>DORIS LEUNG</u> declare that (choose one as appropriate): (print name)			
<input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: <u>25593</u> Firm BCIN: <u>113884</u>			
<input type="checkbox"/> 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: _____			
<input type="checkbox"/> 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>NOV 27/2019</u> Date		<u>Doris Leung</u> Signature of Designer	

## NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, 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 license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



# Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

## A. Project Information

Building number, street name		Unit number 38-11 'B'	Lot/Con
Municipality BRAMPTON	Postal code	Reg. Plan number / other description	

## B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package):	Package: <u>A1</u>	Table: <u>3.1.1.2.A</u>
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## C. Project Design Conditions

<b>Climatic Zone (SB-1):</b>	<b>Heating Equipment Efficiency</b>	<b>Space Heating Fuel Source</b>
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days)	<input checked="" type="checkbox"/> ≥ 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 84% < 92% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
<b>Ratio of Windows, Skylights &amp; Glass (W, S &amp; G) to Wall Area</b>	<b>Other Building Characteristics</b>	
Area of walls = <u>329.24</u> m <sup>2</sup> or <u>3,543.92</u> ft <sup>2</sup>	W, S & G % = <u>10.25</u> ✓	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement
Area of W, S & G = <u>33.76</u> m <sup>2</sup> or <u>363.40</u> ft <sup>2</sup>	Utilize window averaging: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Slab-on-ground <input type="checkbox"/> Walkout Basement
		<input type="checkbox"/> Air Conditioning <input type="checkbox"/> Combo Unit
		<input type="checkbox"/> Air Sourced Heat Pump (ASHP)
		<input type="checkbox"/> Ground Sourced Heat Pump (GSHP)

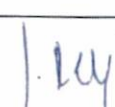
## D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions			
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6)) <input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))			
<input type="checkbox"/> Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)			
<input type="checkbox"/> Table 3.1.1.4.B Required: _____ Permitted Substitution: _____ <input type="checkbox"/> Table 3.1.1.4.C Required: _____ Permitted Substitution: _____		Required: _____ Permitted Substitution: _____	
Building Component	Minimum RSI / R values or Maximum U-Value <sup>(1)</sup>		Building Component
	Nominal	Effective	Efficiency Ratings
<b>Thermal Insulation</b>			<b>Windows &amp; Doors</b> Provide U-Value <sup>(1)</sup> or ER rating
Ceiling with Attic Space	60	59.22	Windows/Sliding Glass Doors
Ceiling without Attic Space	31	27.65	Skylights/Glazed Roofs
Exposed Floor	31	29.80	<b>Mechanicals</b>
Walls Above Grade	22	17.03	Heating Equip.(AFUE)
Basement Walls	20 ci	21.12	HRV Efficiency (SRE% at 0°C)
Slab (all >600mm below grade)	-	-	DHW Heater (EF)
Slab (edge only ≤600mm below grade)	10		DWHR (CSA B55.1 (min. 42% efficiency))
Slab (all ≤600mm below grade, or heated)	10	11.13	Combined Heating System
			# Showers <sup>3</sup>

**CITY OF BRAMPTON**  
**BUILDING DIVISION**  
**REVIEWED BY: S. DESAI**  
**DEC 12 2019**  
**ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS**  
**WORK MUST COMPLY WITH OBC**

(1) U value to be provided in either W/(m<sup>2</sup>·K) or Btu/(h·ft<sup>2</sup>·F) but not both.

## E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

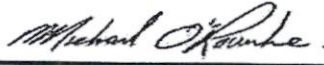
Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.		
Name Jorge Moreno	BCIN 47245	Signature 



19-567625 000 00 CM

**Schedule 1: Designer Information**

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>			
Building number, street name		Unit no.	Lot/con.
Municipality BRAMPTON	Postal code	Plan number/ other description <b>43M-2039</b>	
<b>B. Individual who reviews and takes responsibility for design activities</b>			
Name <b>MICHAEL O'ROURKE</b>		Firm <b>HVAC DESIGNS LTD.</b>	
Street address <b>375 FINLEY AVE</b>		Unit no. <b>202</b>	Lot/con. <b>N/A</b>
Municipality <b>AJAX</b>	Postal code <b>L1S 2E2</b>	Province <b>ONTARIO</b>	E-mail <b>info@hvacdsgns.ca</b>
Telephone number <b>(905) 619-2300</b>	Fax number <b>(905) 619-2375</b>	Cell number ( )	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]</b>			
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems			
Description of designer's work <b>HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12</b>		Model: 38-11  THE SCHUMANN  Project: ENCORE 2	
<b>D. Declaration of Designer</b>			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
<input checked="" type="checkbox"/> 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: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
<input type="checkbox"/> 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.			
October 17, 2019 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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: ENCORE 2

BUILDER: GOLD PARK HOMES

THE SCHUMANN  
TYPE: 38-11

GFA: 2995

DATE: Oct-19  
LO# 84184

WINTER NATURAL AIR CHANGE RATE 0.325  
SUMMER NATURAL AIR CHANGE RATE 0.106

HEAT LOSS  $\Delta T$  °F. 74  
HEAT GAIN  $\Delta T$  °F. 11

CSA-F280-12  
SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			ENS-2			WIC-2			T-BATH			SB-12 PACKAGE A		
EXP. WALL			34			24			9			36			26			15			7			5			9			9		
CLG. HT.			9			9			9			9			9			9			9			9			9			9		
FACTORS			306			216			81			324			234			135			63			45			81					
GRS.WALL AREA			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN					
GLAZING			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN					
NORTH			20.8	14.9	0	0	0	0	0	0	0	0	0	0	0	0	0	10	208	149	0	0	0	0	0	0	0	0	0	0		
EAST			20.8	39.1	32	665	1253	14	291	548	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SOUTH			20.8	23.3	0	0	0	8	166	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WEST			20.8	39.1	0	0	0	0	0	0	0	0	0	40	831	1566	40	831	1566	0	0	0	6	125	140	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	0	0	0		
DOORS			24.7	3.7	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		
NET EXPOSED WALL			4.4	0.6	274	1194	177	194	845	125	81	353	52	284	1237	183	194	845	125	125	545	81	57	248	37	38	166	25	81	353	52	
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	0	0	0	
EXPOSED CLG			1.3	0.6	346	434	193	143	179	80	81	101	45	188	236	105	182	228	101	201	252	112	56	70	31	43	54	24	129	162	72	
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	180	448	66	0	0	0	0	0	0	40	100	15	68	169	25	
BASEMENT/CRAWL HEAT LOSS					0		0		0		0		0		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS					0		0		0		0		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS					2292		1482		454		2304		2353		1004		443		464		337		149		228		515		228		228	
SUB TOTAL HT GAIN						1623		940		97		1854		1859		341		208		208		337		149		228		515		228		228
LEVEL FACTOR / MULTIPLIER			0.20	0.28			0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28
AIR CHANGE HEAT LOSS					631		408		125		634		647		276		122		122		128		188		10		87		16		0	
AIR CHANGE HEAT GAIN						111		64		7		126		127		23		14		23		23		10		87		16		0		
DUCT LOSS					0		0		0		0		300		0		0		0		59		10		87		16		0		0	
DUCT GAIN					0		0		0		0		0		291		0		0		36		10		87		16		0		0	
HEAT GAIN PEOPLE			240		2		480		0		0		1		240		1		240		1		240		0		36		16		0	
HEAT GAIN APPLIANCES/LIGHTS							686		0		0				686				686		0		0		36		16		0		0	
TOTAL HT LOSS BTU/H					2923		1889		579		2938		3300		1281		565		652		289		10		87		16		0		0	
TOTAL HT GAIN x 1.3 BTU/H						3769		1305		136		3778		4164		1677		515		615		289		10		87		16		0		0

ROOM USE			DIN	KT/FM	LIV	LAUN	W/R	FOY	MUD			BAS
EXP. WALL			19	69	43	14	4	24	21			182
CLG. HT.			10	10	10	9	12	12	12			9
FACTORS												
LOSS GAIN												
GRS.WALL AREA			190	690	430	126	48	288	252			1092
GLAZING			LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN			LOSS GAIN
NORTH	20.8	14.9	0	0	0	0	0	0	0			0
EAST	20.8	39.1	0	0	0	0	0	0	0			0
SOUTH	20.8	23.3	30	623	700	0	0	0	0			4
WEST	20.8	39.1	0	0	0	24	499	560	0			83
SKYLT.	36.4	100.7	0	0	0	0	0	0	0			157
DOORS	24.7	3.7	0	0	0	0	0	0	0			7
NET EXPOSED WALL	4.4	0.6	160	697	103	579	2523	374	20			145
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0			163
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0			0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0			0
EXPOSED FLOOR	2.5	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			1320	4829	2673	1113	209	2209	1552			546
SUB TOTAL HT GAIN			803	4720	882	702	31	327	244			1918
LEVEL FACTOR / MULTIPLIER	0.30	0.41	0.30	0.41	0.30	0.41	0.30	0.41	0.30			284
AIR CHANGE HEAT LOSS	537		1982	1086	306	85	898	631	17			0
AIR CHANGE HEAT GAIN	55		321	60	48	2	22	0	0			0
DUCT LOSS	0		0	0	0	0	0	0	0			0
DUCT GAIN	0		0	0	0	0	0	0	0			0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0			0
HEAT GAIN APPLIANCES/LIGHTS			686	686	686	686	0	0	0			0
TOTAL HT LOSS BTU/H			1857	6791	3760	1420	294	3106	2183			0
TOTAL HT GAIN x 1.3 BTU/H			2007	7445	2117	1866	43	455	339			17279

CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED BY: S. DESAI  
DEC 12 2019  
ATTACHED NOTES ARE PART  
OF REVIEWED DRAWINGS  
ALL WORK MUST COMPLY WITH OBC

839

ATTACHED NOTES ARE PART  
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CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED BY: S. DESAI

TOTAL HEAT GAIN BTU/H:

31206

TONS: 2.60

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 51776

TOTAL COMBINED HEAT LOSS BTU/H: 53369



SITE NAME: ENCORE 2  
BUILDER: GOLD PARK HOMES

TYPE: 38-11 THE SCHUMANN

DATE: Oct-19

GFA: 2995 LO# 84184

HEATING CFM 985 COOLING CFM 985  
TOTAL HEAT LOSS 51,776 TOTAL HEAT GAIN 30,970  
AIR FLOW RATE CFM 19.02 AIR FLOW RATE CFM 31.8

furnace pressure 0.6  
furnace filter 0.05  
a/c coil pressure 0.2  
available pressure for s/a & r/a 0.35

LENNOX  
EL196UH070XE36B 70

AFUE = 96 %  
INPUT (BTU/H) = 66,000  
OUTPUT (BTU/H) = 63,900

DESIGN CFM = 985  
CFM @ 0.5" E.S.P.

FAN SPEED  
LOW 0  
MEDLOW 0  
MEDIUM 985  
MEDIUM HIGH 1110  
HIGH 1275

TEMPERATURE RISE 60 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	8	4
R/A	0	0	5	1	1

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	WIC-2	BED-3	MBR	T-BATH	KT/FM	DIN	KT/FM	KT/FM	LIV	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.46	1.89	0.58	1.47	1.65	1.28	0.57	0.65	1.65	1.46	0.48	2.26	1.86	2.26	2.26	3.76	1.42	0.29	3.11	2.18	4.32	4.32	4.32	4.32
CFM PER RUN HEAT	28	36	11	28	31	24	11	12	31	28	9	43	35	43	43	72	27	6	59	42	82	82	82	82
RM GAIN MBH	1.88	1.30	0.14	1.89	2.08	1.68	0.29	0.52	2.08	1.88	0.11	2.48	2.01	2.48	2.48	2.12	1.87	0.04	0.45	0.34	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	60	41	4	60	66	53	9	16	66	60	4	79	64	79	79	67	59	1	14	11	7	7	7	7
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
ACTUAL DUCT LGH.	43	43	40	84	58	37	68	46	59	36	48	16	36	25	39	58	49	61	62	21	51	32	36	14
EQUIVALENT LENGTH	200	130	160	180	120	170	220	91	130	190	150	150	120	120	120	140	170	150	130	90	150	130	110	100
TOTAL EFFECTIVE LENGTH	243	173	200	264	178	207	288	137	189	226	198	166	156	145	159	198	219	211	192	111	201	162	146	114
ADJUSTED PRESSURE	0.07	0.1	0.09	0.07	0.1	0.08	0.06	0.13	0.09	0.08	0.09	0.1	0.11	0.12	0.11	0.09	0.08	0.08	0.09	0.15	0.08	0.1	0.11	0.14
ROUND DUCT SIZE	5	4	4	5	5	6	4	4	5	5	4	6	6	6	6	5	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	206	413	126	206	228	122	126	138	228	206	103	219	178	219	219	529	198	69	433	482	418	418	418	418
COOLING VELOCITY (ft/min)	441	470	46	441	485	270	103	184	485	441	46	403	326	403	403	492	433	11	103	126	36	36	36	36
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	D	C	B	A	D	D	A	D	D	D	D	E	B	D	C	A	B	A	A	E	A	B	C	E

RUN #	25	26
ROOM NAME	T-BATH	BED-2
RM LOSS MBH	0.48	1.47
CFM PER RUN HEAT	9	28
RM GAIN MBH	0.11	1.89
CFM PER RUN COOLING	4	60
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	43	80
EQUIVALENT LENGTH	180	180
TOTAL EFFECTIVE LENGTH	223	260
ADJUSTED PRESSURE	0.08	0.07
ROUND DUCT SIZE	4	5
HEATING VELOCITY (ft/min)	103	206
COOLING VELOCITY (ft/min)	46	441
OUTLET GRILL SIZE	3X10	3X10
TRUNK	D	A

SUPPLY AIR TRUNK SIZE										RETURN 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	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	286	0.06	9.4	10	x	8	515	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	441	0.06	11.1	14	x	8	567	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	161	0.10	6.7	8	x	8	362	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0
TRUNK D	817	0.06	14	22	x	8	668	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0
TRUNK E	985	0.06	15	26	x	8	682	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	0

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	85	95	85	75	75	410	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	0.15
ACTUAL DUCT LGH.	40	51	62	67	70	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	215	175	185	225	230	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	255	226	247	292	300	163	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.06	0.05	0.05	0.09	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	6	6	6	6	6	9.7	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	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	X
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TYPE: 38-11  
SITE NAME: ENCORE 2

LO # 84184  
THE SCHUMANN

**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: VANE 65H Location: BSMT  
79.5 cfm 3.0 sones ☒ 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** PANASONIC  

Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	✓	0.3
ENS-2	FV-05-11VK1	50	✓	0.3
T-BATH	FV-05-11VK1	50	✓	0.3
W/R	FV-05-11VK1	50	✓	0.3

**HEAT RECOVERY VENTILATOR** 9.32.3.11.  
Model: VANE 65H  
155 cfm high 64 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:** GOLD PARK HOMES  
Name:  
Address:  
City:  
Telephone #: **DEC 12 2019**
**INSTALLING CONTRACTOR**  
Name:  
Address:  
City:  
Telephone #: **ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC**
**DESIGNER CERTIFICATION**  
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.  
Name: HVAC Designs Ltd.  
Signature: *Michael O'Rourke*  
HRAI #: 001820  
Date: October-19

**CSA F280-12 Residential Heat Loss and Heat Gain Calculations**  
**Formula Sheet (For Air Leakage / Ventilation Calculation)**

LO#: 84184

Model: 38-11

Builder: GOLD PARK HOMES

Date: 10/17/2019

**Volume Calculation**
**Air Change & Delta T Data**
**House Volume**

Level	Floor Area (ft <sup>2</sup> )	Floor Height (ft)	Volume (ft <sup>3</sup> )
Bsmt	1325	9	11925
First	1325	10	13250
Second	1670	9	15030
Third	0	9	0
Fourth	0	9	0
Total:			40,205.0 ft <sup>3</sup>
Total:			1138.5 m <sup>3</sup>

WINTER NATURAL AIR CHANGE RATE	0.325
SUMMER NATURAL AIR CHANGE RATE	0.106

**Design Temperature Difference**

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

**5.2.3.1 Heat Loss due to Air Leakage**
**6.2.6 Sensible Gain due to Air Leakage**

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

0.325 x 316.24 x 41 °C x 1.2 = 5079 W

= 17329 Btu/h

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

= 0.106 x 316.24 x 6 °C x 1.2 = 245 W

= 835 Btu/h

**5.2.3.2 Heat Loss due to Mechanical Ventilation**
**6.2.7 Sensible heat Gain due to Ventilation**

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

80 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h

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

80 CFM x 11 °F x 1.08 x 0.25 = 236 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)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL <sub>clevel</sub> )	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL <sub>clevel</sub> )
1	0.5	17,329	8,614	1.006
2	0.3		12,793	0.406
3	0.2		12,594	0.275
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

**CITY OF BRAMPTON  
BUILDING DIVISION  
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DEC 12 2019**

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**HEAT LOSS AND GAIN SUMMARY SHEET**

<b>MODEL:</b> 38-11	<b>THE SCHUMANN</b>	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 2995	<b>LO#</b> 84184	<b>SITE:</b> ENCORE 2

**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

**BUILDING DATA**

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	WEST	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):	40205.0	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: 59.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	182.0 ft

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**2012 OBC - COMPLIANCE PACKAGE****Component****Compliance Package  
A1**

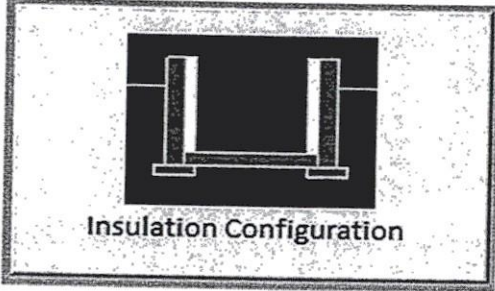
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 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:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.0	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m <sup>2</sup> ):	1.0	
Door Area (m <sup>2</sup> ):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1895	

TYPE: 38-11  
LO# 84184

THE SCHUMANN



## Air Infiltration Residential Load Calculator

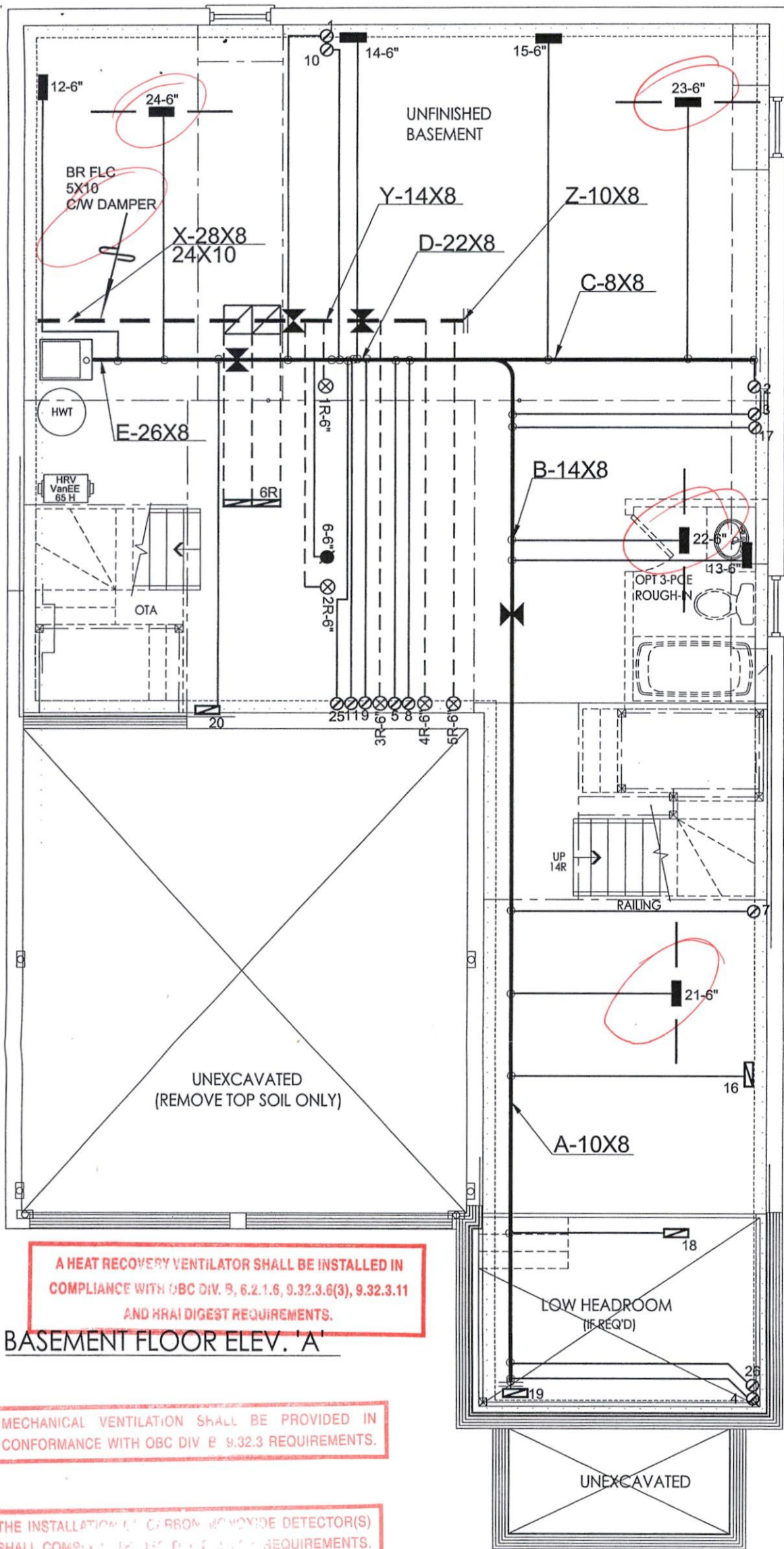
Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Brampton		
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):	6.71		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m <sup>3</sup> ):	1138.5		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1517.6 cm <sup>2</sup>	
	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):	0.325		
Cooling Air Leakage Rate (ACH/H):	0.106		

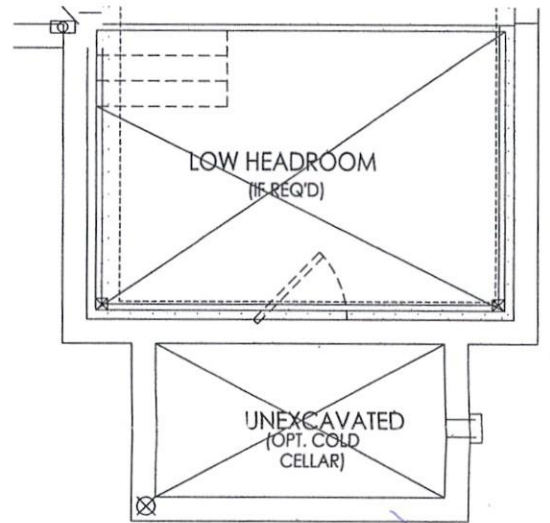
TYPE: 38-11  
LO# 84184

THE SCHUMANN





ENSURE THAT MIN THERMAL PERFORMANCE OF BLDG ENVELOPE AND EQUIPMENT SHALL CONFORM TO OBC SB-12, 3.1.1.2 TABLE REQUIREMENTS. FURNACE SHALL BE EQUIPPED WITH BRUSHLESS DIRECT CURRENT MOTOR OBC DIV B 12.3.1.5. SEAL ALL DUCTWORK WITHIN UNCONDITIONED SPACE OF OUTDOORS PER OBC DIV B6.2.4.3(11) REQUIREMENTS. SEAL ALL SUPPLY DUCTS LOCATED IN CONDITIONED SPACE IN COMPLIANCE WITH OBC DIV B6.2.4.3(12) REQUIREMENTS. SEPARATE ANY INTAKES FROM BUILDING ENVELOPE PENETRATIONS. 900mm (2FT 11IN) - OBC Div B 9.32.3.12. INSTALLATION OF KITCHEN EXHAUST DUCT LARGER THAN 6\"/>



PARTIAL BASEMENT FLOOR ELEV. 'B'

CITY OF BRAMPTON  
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REVIEWED BY: S. DESAI  
DEC 12 2019  
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INSTALLATION OF HVAC EQUIPMENT  
SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS  
AND MANUALS

CSA-F280-12  
PACKAGE A1

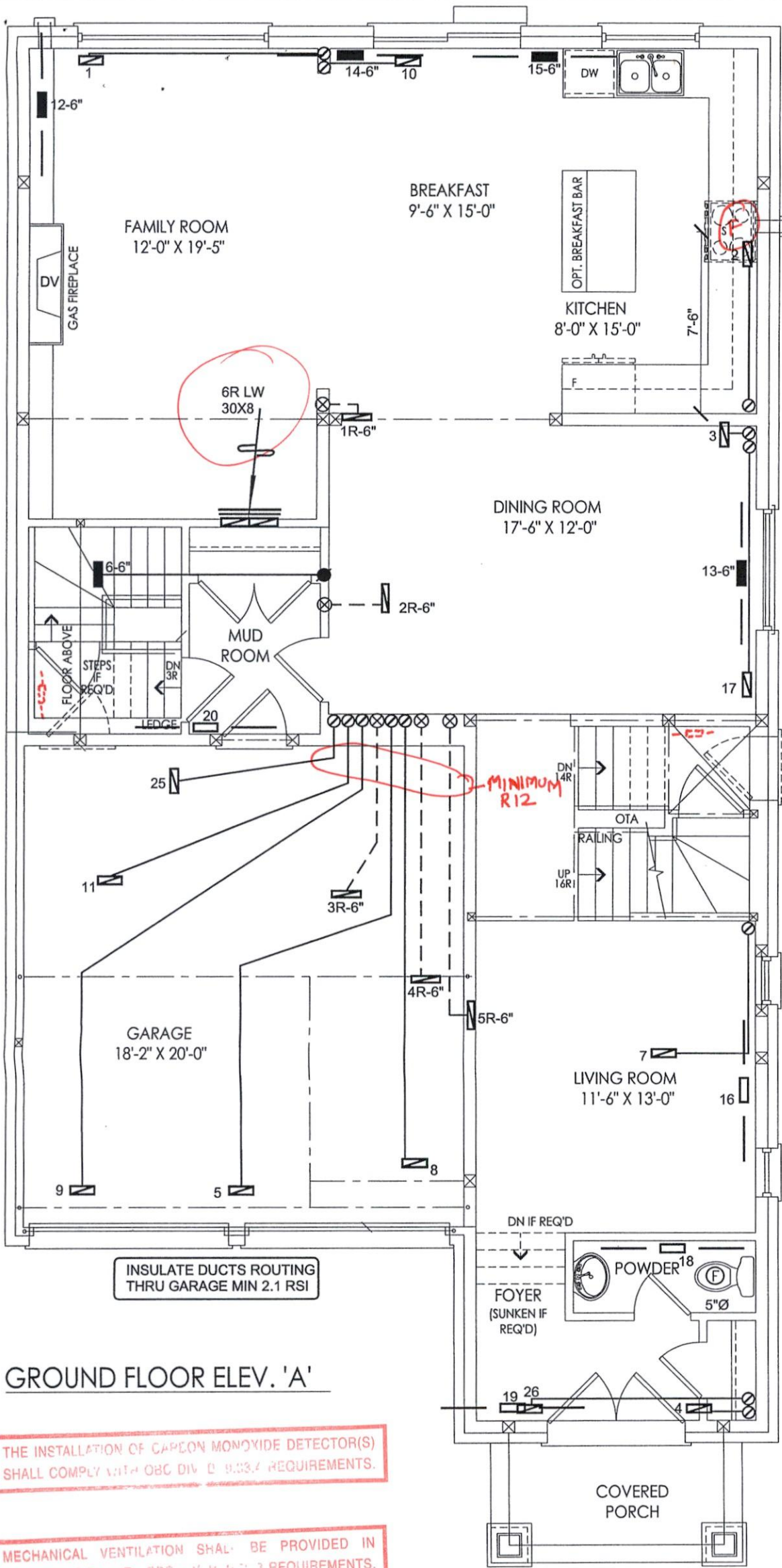
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.  
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client GOLD PARK HOMES		<div>HVACDESIGNS LTD.</div> <div>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</div> <div>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.</div>	HEAT LOSS 53369 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name ENCORE 2 BRAMPTON, ONTARIO			MAKE LENNOX	3RD FLOOR					Date OCT/2019	
			MODEL EL196UH070XE36B	2ND FLOOR		14	5	3		
			INPUT 66 MBTU/H	1ST FLOOR		8	1	2		
			OUTPUT 63.9 MBTU/H	BASEMENT		4	1	0		
THE SCHUMANN 38-11 2995 sqft			COOLING 2.5 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				Scale 3/16" = 1'-0"	
			FAN SPEED 985 cfm @ 0.6" w.c.						BCIN# 19669	
									LO#	84184



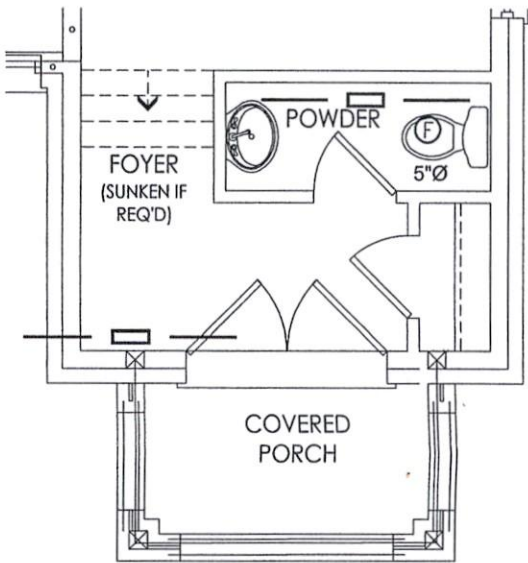


GROUND FLOOR ELEV. 'A'

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B 9.03.4 REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B 9.03.3 REQUIREMENTS.

THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.B.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-735-1314



PARTIAL GROUND FLOOR ELEV. 'B'

CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED BY: S. DESAI  
DEC 12 2019

ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS  
ALL WORK MUST COMPLY WITH OBC

CSA-F280-12  
PACKAGE A1

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.

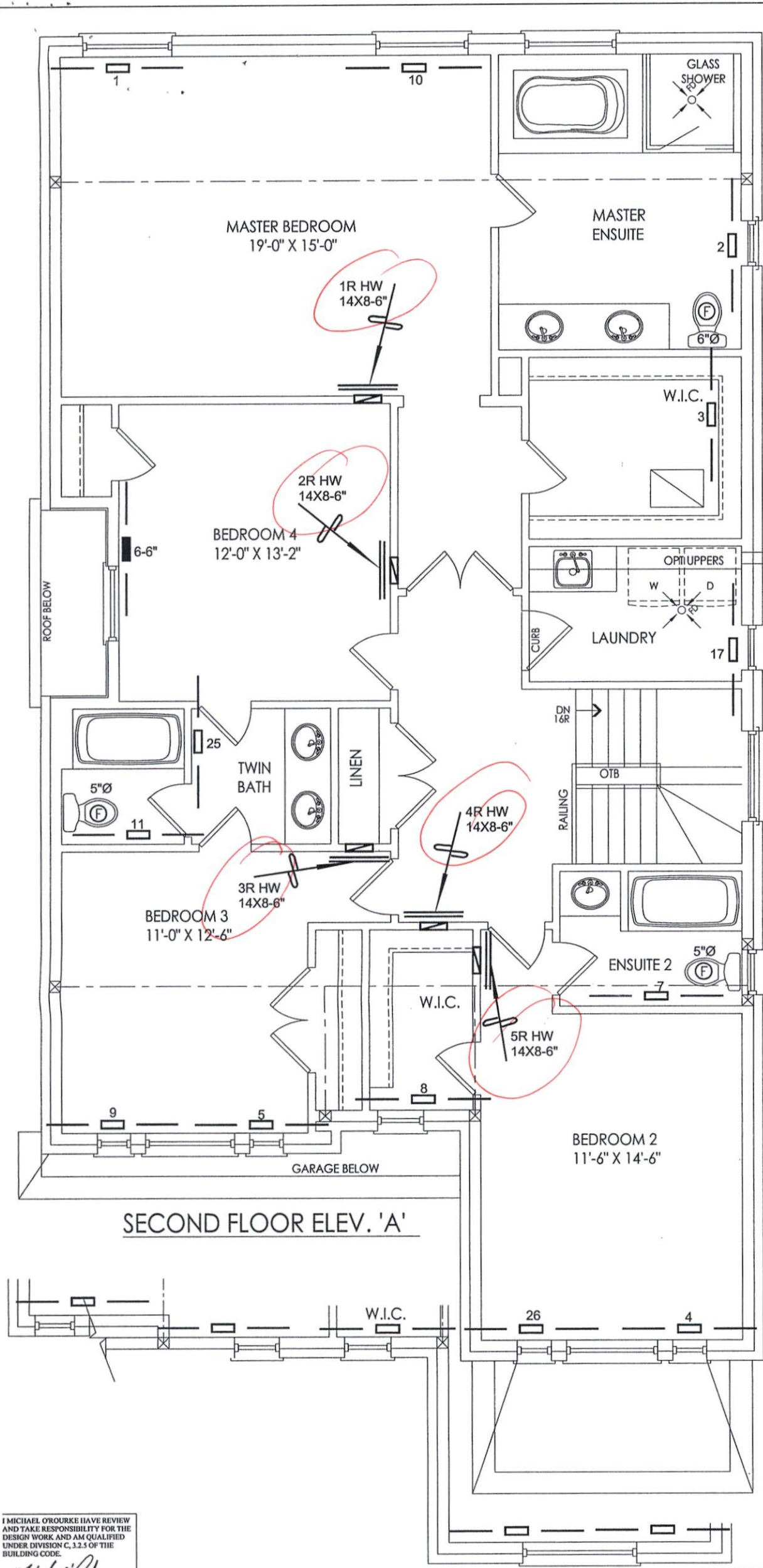
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

HVAC LEGEND							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client		<div></div> <div>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</div> <div>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.</div>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2019
ENCORE 2 BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
THE SCHUMANN 38-11			BCIN# 19669	
2995 sqft		LO#	84184	





SECOND FLOOR ELEV. 'A'

PARTIAL SECOND FLOOR ELEV. 'B'

CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED BY: S. DESAI  
DEC 12 2019  
ATTACHED NOTES ARE PART  
OF REVIEWED DRAWINGS  
ALL WORK MUST COMPLY WITH OBC

THE INSTALLATION OF SMOKE DETECTOR(S)  
SHALL COMPLY WITH OBC 9.3.2. REQUIREMENTS.

THE INSTALLATION OF SMOKE DETECTOR(S)  
SHALL COMPLY WITH OBC 9.3.2. REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN  
CONFORMANCE WITH OBC 9.3.2.3 REQUIREMENTS.

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

CSA-F280-12  
PACKAGE A1

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

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Client

**GOLD PARK HOMES**

Project Name

**ENCORE 2**

**BRAMPTON, ONTARIO**

**THE SCHUMANN**

**38-11**

2995 sqft

**HVACDESIGNS LTD.**

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Specializing in Residential Mechanical Design Services

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Sheet Title

**SECOND FLOOR**

**HEATING**

**LAYOUT**

Date

OCT/2019

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

**84184**