

19-444476 000 00 RL

## 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 <b>AMELIA 3-14, EL-2</b>

### A. Project Information

Building number, street name		Unit number	Low/Con <b>14</b>
Municipality <b>City of Brampton</b>	Postal code	Reg. Plan number / other description <b>43M-2057</b>	

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

**SB-12 Prescriptive (input design package):** Package: A1 Table: \_\_\_\_\_

### C. Project Design Conditions

<b>Climatic Zone (SB-1):</b> <input type="checkbox"/> Zone 1 (< 5000 degree days) <input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<b>Heating Equipment Efficiency</b> <input type="checkbox"/> ≥ 92% AFUE <input type="checkbox"/> ≥ 84% < 92% AFUE	<b>Space Heating Fuel Source</b> <input type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel <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> Area of walls = <u>382.0</u> m <sup>2</sup> or _____ ft <sup>2</sup> Area of W, S & G = <u>41.2</u> m <sup>2</sup> or _____ ft <sup>2</sup> W, S & G % = <u>10.79%</u> Utilize window averaging: <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Other Building Characteristics</b> <input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement <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	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	10.57	10.43	Windows/Sliding Glass Doors	1.6
Ceiling without Attic Space	5.46	4.87	Skylights/Glazed Roofs	2.8
Exposed Floor	5.46	5.25	<b>Mechanicals</b>	
Walls Above Grade	4.22	3.00	Heating Equip.(AFUE)	96%
Basement Walls	3.52	3.72	HRV Efficiency (SRE% at 0° C)	75%
Slab (all >600mm below grade)	-	-	DHW Heater (EF)	0.83
Slab (edge only ≤600mm below grade)	1.76	1.76	DWHR (CSA B55.1 (min. 42% efficiency))	42 # Showers <u>2</u>
Slab (all ≤600mm below grade, or heated)	1.76	1.96	Combined Heating System	N/A

(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 <b>Walter Botter Jardin Design Group Inc.</b>	BCIN <b>21031 27763</b>	Signature 

SITE NAME: GRANELLI HOME CORP

BUILDER: GREENYORK HOMES

LOT 14

TYPE: AMELIA 3

GFA: 2970

DATE: Jan-19

LO# 81140

WINTER NATURAL AIR CHANGE RATE 0.330

SUMMER NATURAL AIR CHANGE RATE 0.117

HEAT LOSS ΔT °F. 74

HEAT GAIN ΔT °F. 14

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE	MBR		ENS		WIC		BED-2		BED-3		BED-4		ENS-2		ENS-3		BED-5		BATH		
EXP. WALL	37		24		5		12		31		25		16		23		10		10		
CLG. HT.	9		9		9		9		9		9		9		9		9		9		
FACTORS																					
GRS.WALL AREA	333		216		45		108		279		225		144		207		90		90		
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		
NORTH	20.8	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	20.8	25.2	0	0	8	166	202	0	0	0	0	0	0	0	23	478	963	0	0	0	0
WEST	20.8	41.9	30	623	1257	13	270	545	0	0	0	0	0	0	8	166	202	15	312	379	8
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	303	1320	249	195	850	160	45	196	37	93	405	76	222	967	183	202	880	166	144
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	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	267	335	162	130	163	79	125	157	76	203	254	123	213	267	129	150	188	91	117
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	30	81	39	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	243	605	114	0	0	0	50
BASEMENT/CRAWL HEAT LOSS	0		0		0		0		0		0		0		50		124		23		
SLAB ON GRADE HEAT LOSS	0		0		0		0		0		0		0		0		0		0		
SUBTOTAL HT LOSS	2278		1449		353		971		3104		1546		899		1539		789		661		
SUB TOTAL HT GAIN	1668		986		113		445		2853		838		213		1372		513		336		
LEVEL FACTOR / MULTIPLIER	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	
AIR CHANGE HEAT LOSS	602		383		93		257		820		409		237		407		208		175		
AIR CHANGE HEAT GAIN	141		83		10		38		241		71		18		116		43		28		
DUCT LOSS	0		0		0		0		0		0		0		0		0		0		
DUCT GAIN	0		0		0		0		0		0		0		0		0		0		
HEAT GAIN PEOPLE	240	2	480	0	0	0	0	1	240	1	240	0	240	0	0	0	0	1	240	0	
HEAT GAIN APPLIANCES/LIGHTS	499		0		0		0		499		499		0		0		0		499		
TOTAL HT LOSS BTU/H	2880		1832		446		1228		4317		1954		1250		1946		997		836		
TOTAL HT GAIN x 1.3 BTU/H	3625		1390		159		1588		5482		2142		330		1935		1684		474		

ROOM USE	LV/DN		LIB		KT/BR		FAM		LAUN		W/R		FOY		MUD		WUB		BAS	
EXP. WALL	17		23		40		33		0		15		30		14		17		155	
CLG. HT.	11		11		11		11		9		11		11		11		9		9	
FACTORS																				
GRS.WALL AREA	187		253		440		363		0		165		330		154		153		1008	
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
NORTH	20.8	16.3	38	789	620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	20.8	25.2	0	0	0	19	395	479	19	395	479	0	0	0	7	145	293	0	0	0
WEST	20.8	41.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	149	649	122	234	1020	192	353	1538	290	325	1416	267	0	0	0	165	719	136
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	283	1233	233	127	553	104
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	92	115	56	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	25	62	12	0	0	0
BASEMENT/CRAWL HEAT LOSS	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	
SUBTOTAL HT LOSS	1439		1414		3346		2206		178		719		2365		1192		106		5017	
SUB TOTAL HT GAIN	742		672		3618		1859		68		136		712		491		1179		7120	
LEVEL FACTOR / MULTIPLIER	0.30	0.43	0.30	0.43	0.30	0.43	0.30	0.43	0.20	0.26	0.30	0.43	0.30	0.43	0.30	0.43	0.30	0.43	0.50	1.10
AIR CHANGE HEAT LOSS	619		609		1440		949		47		309		1018		513		202		9094	
AIR CHANGE HEAT GAIN	63		57		306		157		6		11		60		42		0		70	
DUCT LOSS	0		0		0		0		0		0		0		0		0		0	
DUCT GAIN	0		0		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	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	499		499		499		499		499		499		499		499		499		499	
TOTAL HT LOSS BTU/H	2058		2023		4785		3155		247		1028		3382		1705		1179		16215	
TOTAL HT GAIN x 1.3 BTU/H	1695		1596		5750		3270		819		191		1004		692		263		1554	

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 BUILDING DIVISION  
 REVIEWED BY: S. DESAI  
 MAR 27 2019  
 ATTACHED NOTES ARE PART  
 OF REVIEWED DRAWINGS  
 ALL WORK MUST COMPLY WITH O.C.

M-2057 LOT 14

TOTAL HEAT GAIN BTU/H: 35989      TONS: 3.00      LOSS DUE TO VENTILATION LOAD BTU/H: 1835      STRUCTURAL HEAT LOSS: 53461      TOTAL COMBINED HEAT LOSS BTU/H: 55296

*Michael O'Rourke*

SITE NAME: GRANELLI HOME CORP  
 BUILDER: GREENYORK HOMES

LOT 14  
 TYPE: AMELIA 3

DATE: Jan-19

GFA: 2970 LO# 81140

HEATING CFM 1030 COOLING CFM 1030  
 TOTAL HEAT LOSS 53,461 TOTAL HEAT GAIN 35,643  
 AIR FLOW RATE CFM 19.27 AIR FLOW RATE CFM 28.9

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

#CARRIER  
 59SP5A-60-12 60  
 FAN SPEED  
 LOW 0  
 MEDLOW 785  
 MEDIUM 845  
 MEDIUM HIGH 970  
 HIGH 1030

AFUE = 96 %  
 INPUT (BTU/H) = 60,000  
 OUTPUT (BTU/H) = 58,000

DESIGN CFM = 1030  
 CFM @ 6" E.S.P.

TEMPERATURE RISE 52 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	8	4
R/A	0	0	5	2	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	BATH	ENS-2	ENS-3	BED-3	MBR	BED-5	LV/DN	LIB	KT/BR	KT/BR	FAM	LAUN	W/R	FOY	MUD	BAS	BAS	BED-4	BAS
RM LOSS MBH	1.44	1.83	0.45	1.23	2.16	0.84	1.25	1.95	2.16	1.44	1.00	2.06	2.02	2.39	2.39	3.15	0.25	1.03	3.38	1.70	4.35	4.35	1.95	4.35
CFM PER RUN HEAT	28	35	9	24	42	16	24	38	42	28	19	40	39	46	46	61	5	20	65	33	84	84	38	84
RM GAIN MBH	1.81	1.39	0.16	1.59	2.74	0.47	0.33	1.93	2.74	1.81	1.68	1.70	1.60	2.88	2.88	3.27	0.82	0.19	1.00	0.69	0.45	0.45	2.14	0.45
CFM PER RUN COOLING	52	40	5	46	79	14	10	56	79	52	49	49	46	83	83	95	24	6	29	20	13	13	62	13
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	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16
ACTUAL DUCT LGH.	49	53	35	23	56	35	50	61	52	43	11	23	50	37	33	42	9	38	10	46	30	35	20	13
EQUIVALENT LENGTH	150	170	160	210	130	240	140	140	120	150	180	110	140	110	130	190	150	170	110	170	110	150	120	130
TOTAL EFFECTIVE LENGTH	199	223	195	233	186	275	190	201	172	193	223	121	163	160	167	223	192	179	148	180	156	180	155	150
ADJUSTED PRESSURE	0.09	0.08	0.09	0.07	0.09	0.06	0.09	0.09	0.1	0.09	0.08	0.14	0.11	0.1	0.1	0.07	0.09	0.1	0.12	0.1	0.1	0.09	0.11	0.11
ROUND DUCT SIZE	4	4	4	6	5	5	4	5	5	4	5	5	5	6	6	6	4	4	5	4	6	6	5	6
HEATING VELOCITY (ft/min)	321	402	103	122	308	117	275	279	308	321	140	294	286	235	235	311	57	229	477	379	428	428	279	428
COOLING VELOCITY (ft/min)	597	459	57	235	580	103	115	411	580	597	360	360	338	423	423	484	275	69	213	229	66	66	455	66
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10
TRUNK	A	B	A	D	C	B	C	C	C	B	B	B	D	A	A	A	C	B	C	D	A	A	D	D

RUN #	25
ROOM NAME	BAS
RM LOSS MBH	4.35
CFM PER RUN HEAT	84
RM GAIN MBH	0.45
CFM PER RUN COOLING	13
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH.	37
EQUIVALENT LENGTH	120
TOTAL EFFECTIVE LENGTH	157
ADJUSTED PRESSURE	0.1
ROUND DUCT SIZE	6
HEATING VELOCITY (ft/min)	428
COOLING VELOCITY (ft/min)	66
OUTLET GRILL SIZE	4X10
TRUNK	C

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**SUPPLY AIR TRUNK SIZE**

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.07	9.9	12	537
TRUNK B	0.06	11.8	16	581
TRUNK C	0.09	8.7	10	540
TRUNK D	0.07	11.3	14	666
TRUNK E	0.00	0	0	0
TRUNK F	0.00	0	0	0

**RETURN AIR TRUNK SIZE**

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0.00	0	0	0
TRUNK H	0.00	0	0	0
TRUNK I	0.00	0	0	0
TRUNK J	0.00	0	0	0
TRUNK K	0.00	0	0	0
TRUNK L	0.00	0	0	0
TRUNK O	0.06	0	0	8
TRUNK P	0.06	0	0	8
TRUNK Q	0.06	0	0	8
TRUNK R	0.06	0	0	8
TRUNK S	0.06	0	0	8
TRUNK T	0.06	0	0	8
TRUNK U	0.06	0	0	8
TRUNK V	0.06	0	0	8
TRUNK W	0.06	0	0	8
TRUNK X	0.06	15.2	28	662
TRUNK Y	0.06	11.1	14	572
TRUNK Z	0.06	0	0	0
DROP	0.06	15.2	24	618

**RETURN AIR #**

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
AIR VOLUME	95	85	85	95	85	350	80	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.	49	36	55	47	37	30	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	215	175	165	220	180	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	224	251	230	212	257	210	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.06	0.06	0.07	0.06	0.07	0.08	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	9.8	5.4	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	8	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	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: AMELIA 3  
 SITE NAME: GRANELLI HOME CORP

LO # 81140  
 LOT 14

**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	4	@ 10.6 cfm	42.4	cfm
Kitchen & Bathrooms	6	@ 10.6 cfm	63.6	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.	TOTAL		212.0	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		95.4 cfm

**SUPPLEMENTAL VENTILATION CAPACITY** 9.32.3.5.

Total Ventilation Capacity	212	cfm
Less Principal Ventill. Capacity	95.4	cfm
Required Supplemental Capacity	116.6	cfm

**PRINCIPAL EXHAUST FAN CAPACITY**

Model: LIFEBREATH RNC5-HEX Location: BSMT

95.4 cfm 3.0 sones  HVI Approved

**PRINCIPAL EXHAUST HEAT LOSS CALCULATION**

CFM		ΔT °F		FACTOR		% LOSS
95.4 CFM	X	74 F	X	1.08	X	0.24

**SUPPLEMENTAL FANS** NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
ENS-2	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

**HEAT RECOVERY VENTILATOR** 9.32.3.11.

Model: LIFEBREATH RNC5-HEX

108 cfm high 59 cfm low

76 % Sensible Efficiency @ 32 deg F ( 0 deg C)  HVI Approved

**LOCATION OF INSTALLATION**

Lot: Concession

Township: Plan

Address:

Roll #: Building Permit #

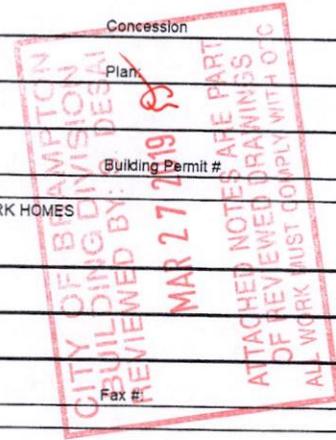
**BUILDER:** GREENYORK HOMES

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: *Michael O'Rourke*

HRAI #: 001820

Date: January-19

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE

INDIVIDUAL BCIN: 19669

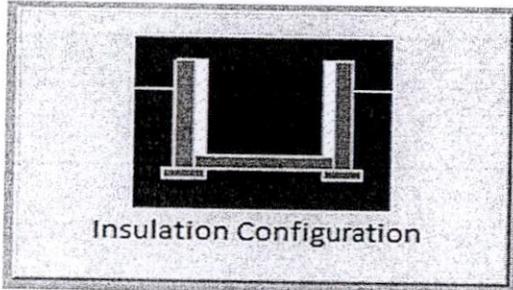
*Michael O'Rourke*

MICHAEL O'ROURKE



# 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):	17.1	 <p>Insulation Configuration</p>
Floor Width (m):	9.1	
Exposed Perimeter (m):	47.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.98	
Window Area (m <sup>2</sup> ):	1.1	
Door Area (m <sup>2</sup> ):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
<b>Heating Load (Watts):</b>	<b>1470</b>	

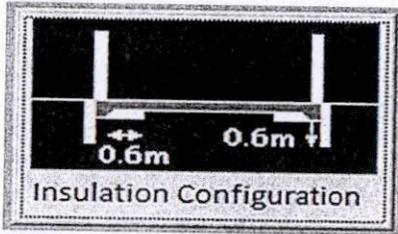
CITY OF BRAMPTON  
 BUILDING DIVISION  
 REVIEWED BY: S. DESAI  
 MAR 27 2019  
 ATTACHED NOT TO BE PART  
 OF REVIEWED DRAWINGS  
 ALL WORK MUST COMPLY WITH O.C.

TYPE: AMELIA 3  
 LO# 81140

LOT 14

# 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		
Length (m):	4.6	 <p>Insulation Configuration</p>
Width (m):	0.6	
Exposed Perimeter (m):	5.2	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
<b>Heating Load (Watts):</b>	<b>31</b>	

CITY OF BRAMPTON  
 BUILDING DIVISION  
 REVIEWED BY: S. RESAI  
 MAR 27 2019  
 ATTACHED NOTES ARE PART  
 OF REVIEWED DRAWINGS  
 ALL WORK MUST COMPLY WITH O.C.

TYPE: AMELIA 3  
 LO# 81140

LOT 14

## Air Infiltration Residential Load Calculator

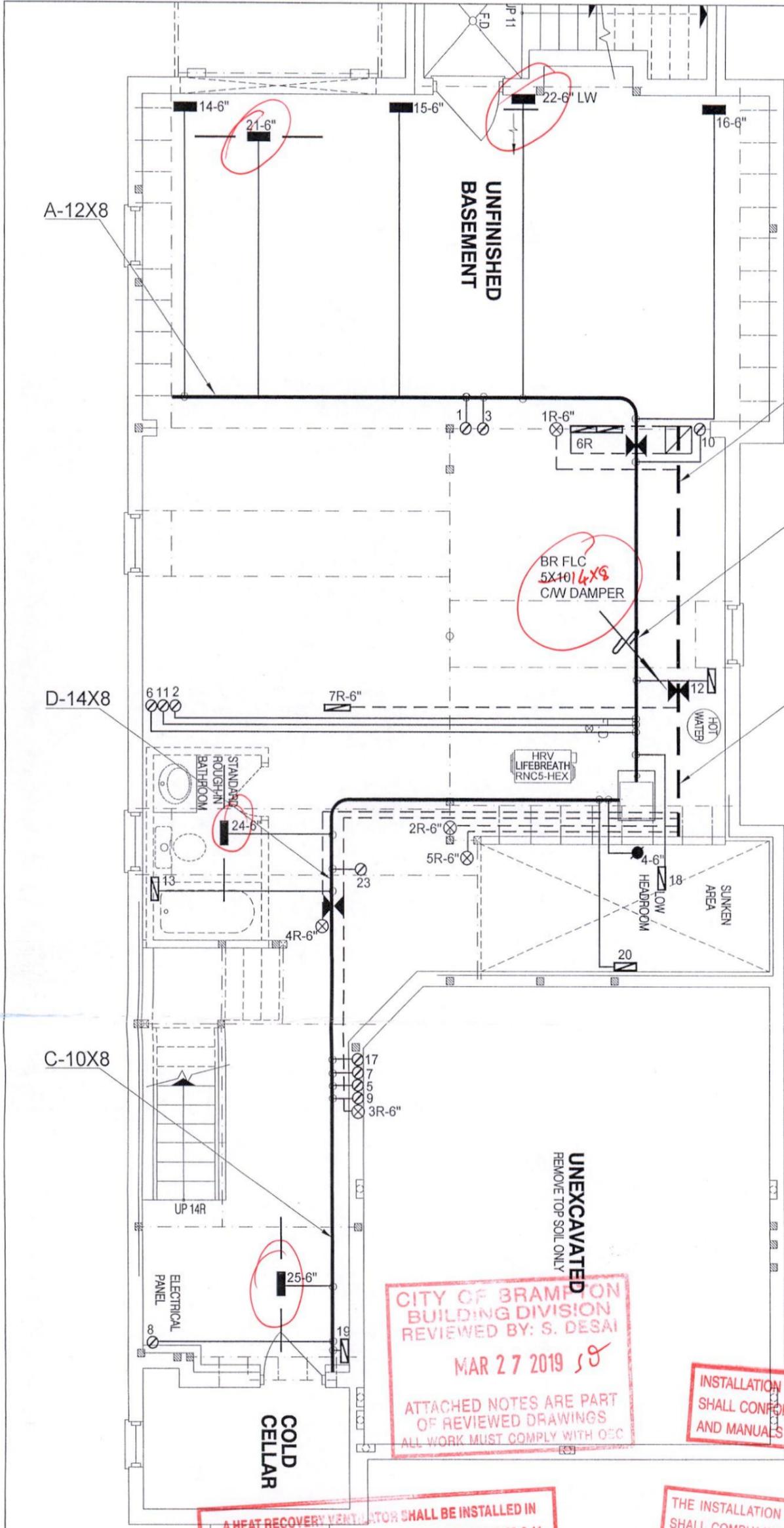
Supplemental tool for CAN/CSA-F280

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):	6.86		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m <sup>3</sup> ):	1176.6		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1568.5 cm <sup>2</sup>	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	45.0	45.0	
Flue Size			
Flue #:	#1	#2	#3 #4
Diameter (mm):	0	0	0 0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	<b>0.330</b>		
Cooling Air Leakage Rate (ACH/H):	<b>0.117</b>		

CITY OF BRAMPTON  
 BUILDING DIVISION  
 REVIEWED BY: S. DESA  
 MAR 27 2019  
 ATTACHED NOTES ARE PART  
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 ALL WORK MUST COMPLY WITH O.C.

TYPE: AMELIA 3  
 LO# 81140

LOT 14



ENSURE THAT MIN THERMAL PERFORMANCE OF BLDG ENVELOPE AND EQUIPMENT SHALL CONFORM TO OBC SB-12, 3.1.1.2 TABLES 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 THAT ARE POTENTIAL SOURCES OF CONTAMINANTS (GAS VENTS, OIL FILL PIPES, etc. BY MIN 900mm (2FT 11IN) - OBC Div B 9.32.3.12. INSTALLATION OF KITCHEN EXHAUST DUCT LARGER THAN 6" dia SHALL BE PRECEDED BY APPLICATION FOR REVISION OF DESIGN PER OBC PART 6 REQUIREMENTS. EXHAUST FAN SHALL DISCHARGE DIRECTLY TO OUTSIDE. CLOTHES DRYER EXHAUST SYSTEM SHALL COMPLY WITH OBC DIV B 9.32.1.2, 9.32.1.3 & 9.32.3 REQ'S. BALANCE THE RETURN AIRFLOW ON THE UPPER FLOOR TO MATCH THE SUPPLY. WHEN HRV IS USED AS PRINCIPAL EXHAUST FAN, THE CONTROLLER SHALL BE WIRED TO THE HRV UNIT AND INTERCONNECTED TO THE FURNACE FAN. THE FURNACE BLOWER MUST BE IN OPERATION WHEN THE HRV IS IN OPERATION. INSTALL ADDITIONAL S/A REGISTER AS REQUIRED IN ORDER TO ENSURE MIN 72degF - OBC DIV B 9.33.3.1(1). THE DOOR TO ANY ROOM WITHOUT RETURN AIR GRILLE. ENSURE RETURN AIR INTAKE SHALL BE CONNECTED TO THE MAIN R/A DUCT AT A HORIZONTAL DISTANCE OF MIN 6FT FROM THE CASING OF THE UNIT (HRAI DIGEST).

CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED BY: S. DESAI

MAR 27 2019

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

INSTALLATION OF HVAC EQUIP.  
SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS  
AND MANUALS

A HEAT RECOVERY VENTILATOR SHALL BE INSTALLED IN  
COMPLIANCE WITH OBC DIV. B, 6.2.1.6, 9.32.3.6(3), 9.32.3.11  
AND HRAI DIGEST REQUIREMENTS.

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S)  
SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN  
CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

LOT 14  
CSA-F280-12  
PACKAGE A1

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, BCIN# 19669  
HVAC DESIGNS LTD.

HVAC LEGEND							REVISIONS		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	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.	

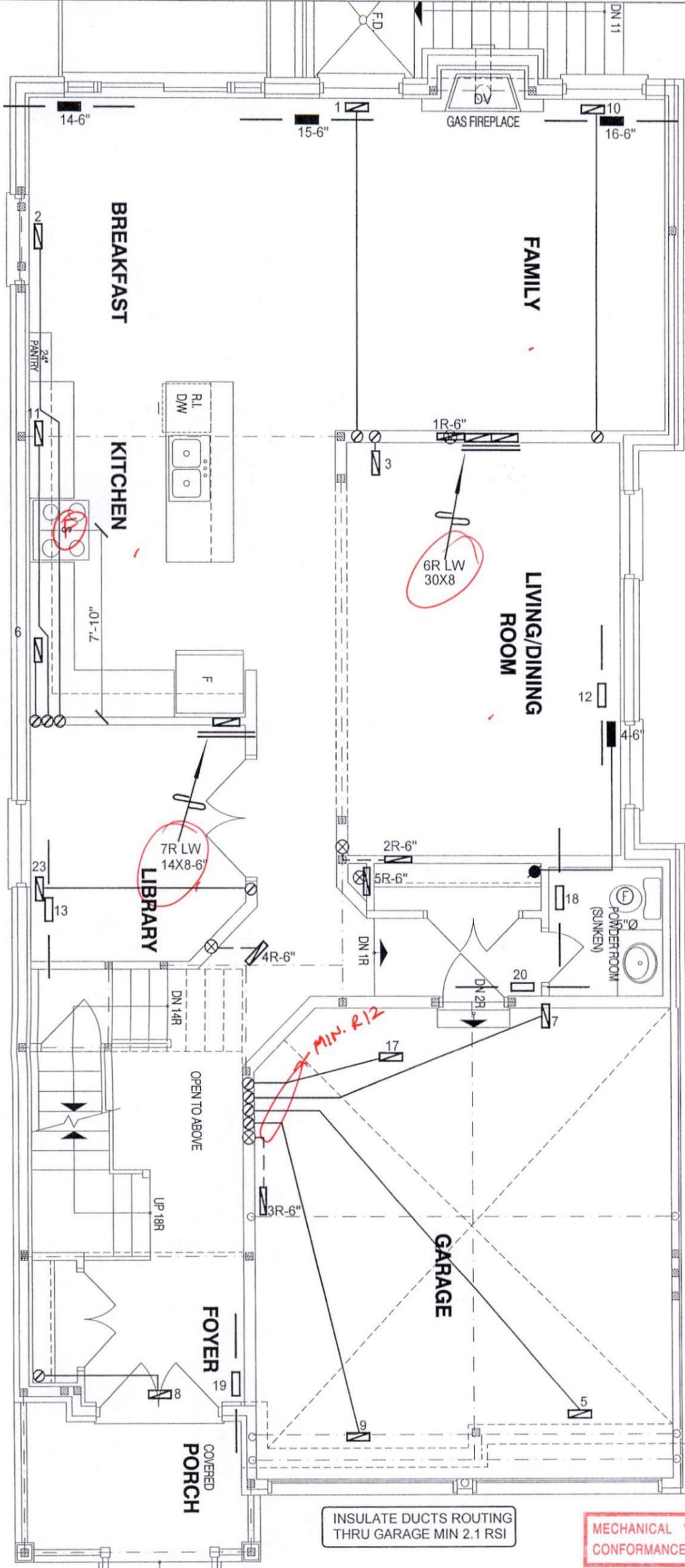
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Client  
**GREENYORK HOMES**  
Project Name  
**GRANELLI HOMES CORP  
BRAMPTON, ONTARIO  
M-2057  
LOT 14  
AMELIA 3**

**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@hvacedesigns.ca  
Web: www.hvacedesigns.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	55296 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA		3RD FLOOR			
MAKE	CARRIER	2ND FLOOR	13	5	5
MODEL	59SP5A-60-12	1ST FLOOR	8	2	2
INPUT	60 MBTU/H	BASEMENT	4	1	0
OUTPUT	58 MBTU/H	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			
COOLING	3.0 TONS				
FAN SPEED	1030 cfm @ 0.6" w.c.				

Sheet Title  
**BASEMENT HEATING LAYOUT**  
Date  
JAN/2019  
Scale  
3/16" = 1'-0"  
BCIN# 19669  
LO# 81140



**THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-785-1314**

**CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: S. DESAI MAR 27 2019**  
 ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC

INSULATE DUCTS ROUTING THRU GARAGE MIN 2.1 RSI

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV B, 9.32.3 REQUIREMENTS.

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV B, 9.33.4 REQUIREMENTS.

**LOT 14  
 CSA-F280-12  
 PACKAGE A1**

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

HVAC LEGEND							REVISIONS		
— □ —	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

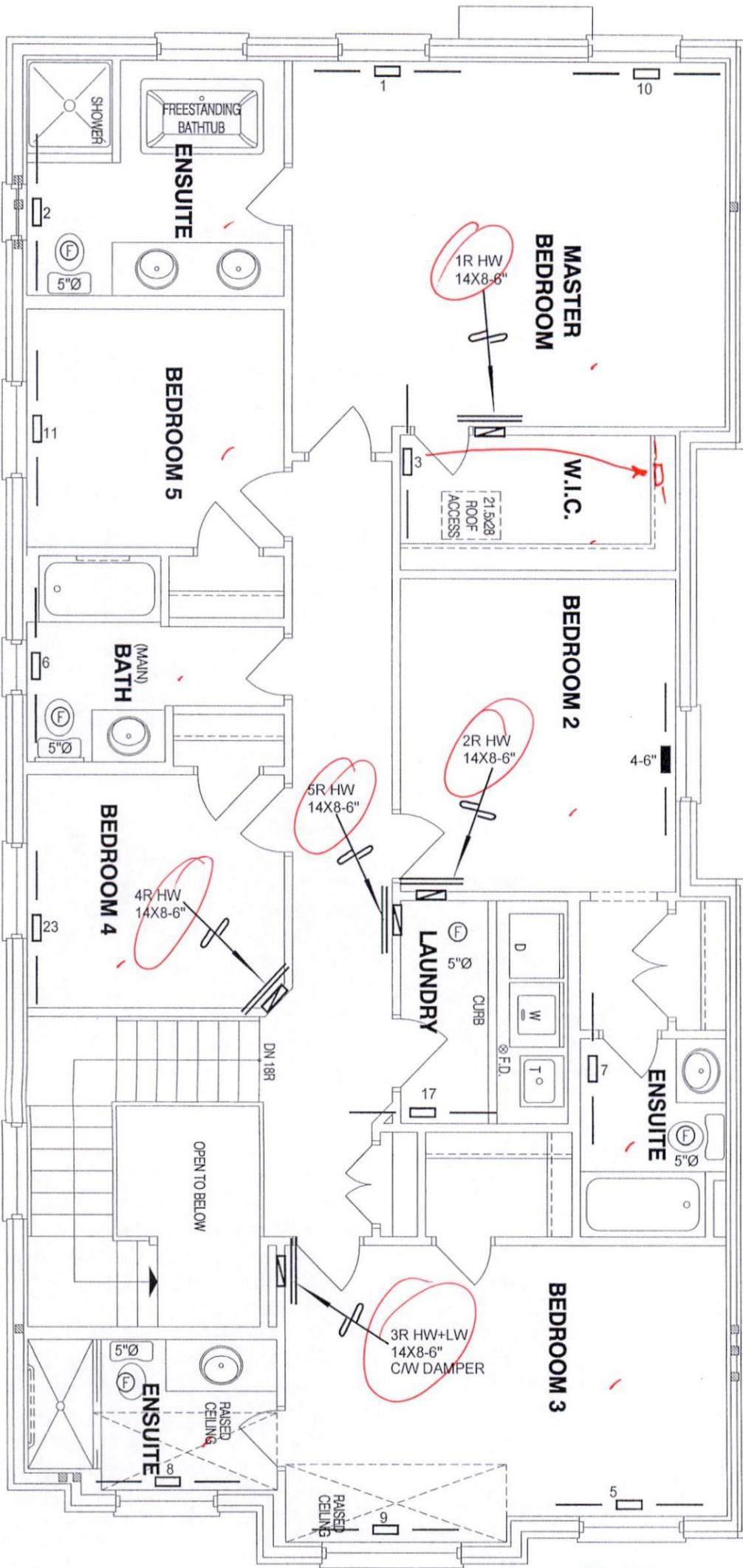
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Client  
**GREENYORK HOMES**  
 Project Name  
**GRANELLI HOMES CORP  
 BRAMPTON, ONTARIO  
 M-2057  
 LOT 14  
 AMELIA 3**

**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  
 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  
**FIRST FLOOR HEATING LAYOUT**  
 Date  
 JAN/2019  
 Scale  
 3/16" = 1'-0"  
 BCIN# 19669  
 LO# 81140

2970 sqft



CITY OF BRAMPTON  
 BUILDING DIVISION  
 REVIEWED BY: S. DESAI  
 MAR 27 2019  
 ATTACHED NOTES ARE PART  
 OF REVIEWED DRAWINGS  
 ALL WORK MUST COMPLY WITH OTC

MECHANICAL VENTILATION SHALL BE PROVIDED IN  
 CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S)  
 SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

LOT 14  
 CSA-F280-12  
 PACKAGE A1

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, BCIN# 19669  
 HVAC DESIGNS LTD.

HVAC LEGEND								REVISIONS	
— □ —	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	— X —	REDUCER	1.	
								No.	Description
									Date

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Client  
**GREENYORK HOMES**  
 Project Name  
**GRANELLI HOMES CORP**  
**BRAMPTON, ONTARIO**  
**M-2057**  
**LOT 14**  
**AMELIA 3**      2970 sqft

**HVAC DESIGNS LTD.**  
 375 Finley Ave. Suite 202 - Ajax, Ontario  
 L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375  
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 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  
**SECOND FLOOR**  
**HEATING**  
**LAYOUT**  
 Date JAN/2019  
 Scale 3/16" = 1'-0"  
 BCIN# 19669  
 LO# 81140

# Schedule 1: Designer Information

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

A. Project Information			
Building number, street name 4 OSECO WAY		Unit no.	Lot/con. 14
Municipality <b>BRAMPTON</b>	Postal code	Plan number/ other description 43M-2057	
B. Individual who reviews and takes responsibility for design activities			
Name SANDY WHITE, P.Eng.		Firm ANDA ENGINEERING LTD.	
Street address 5125 ARDOCH ROAD		Unit no.	Lot/con.
Municipality ARDOCH	Postal code K0H-1C0	Province ONTARIO	E-mail design@andaengineering.com
Telephone number (613) 479-0161	Fax number ( ) N/A	Cell number (416) 476-1105	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]			
<input type="checkbox"/> House	<input type="checkbox"/> HVAC – House	<input type="checkbox"/> Building Structural	
<input type="checkbox"/> Small Buildings	<input type="checkbox"/> Building Services	<input checked="" type="checkbox"/> Plumbing – House	
<input type="checkbox"/> Large Buildings	<input type="checkbox"/> Detection, Lighting and Power	<input type="checkbox"/> Plumbing – II Buildings	
<input type="checkbox"/> Complex Buildings	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> On-site Sewage Systems	
Description of designer's work AMELIA 3 EL. 2 (5 BEDROOM) WALK-UP & DECK CONDITION			
<b>GRANELLI HOMES CORP.</b>			
D. Declaration of Designer			
I, <u>SANDY WHITE,</u> declare that (choose one as appropriate): (print name)			
<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 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 checked="" type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: <u>P.Eng. exempt, note 2</u>			
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>2019/24/01</u>		<b>SANDY WHITE</b> <small>2206-0210-0000-0000 25-00-0000-0000-0000 0000-0000-0000-0000 0000-0000-0000-0000 0000-0000-0000-0000 0000-0000-0000-0000</small>	
Date		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.



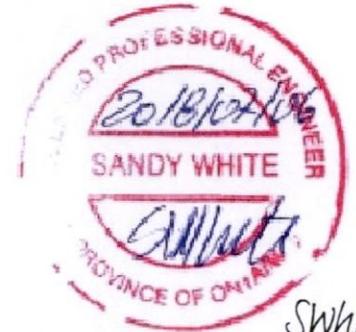
Planning and Development Services  
 Building Division  
 8850 McLaughlin Road, Unit 1  
 Brampton, ON L6Y 5T1

**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:** Greenyork Homes  
**Certified Model Name:** AMELIA 3 ALT 2ND (LO#78990-P)  
**Optional Floor Layout:**  
**Application No.:**



*Swhite*

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		4	
Bidet				
Extra Shower			1	
Lav			1	
Bar Sink				
Powder room <sup>(7)</sup>		1		
Kitchen Sink		1		
Dishwasher		1		
Laundry Tub			1	
Washing Machine			1	
Hose Bib		2		

**Total Fixture Units** 33.6  
**Minimum Diametre of Water Service Pipe Required from the Property Line to the House (Inch)** 1 1/4

**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 3/4 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 NWT 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.

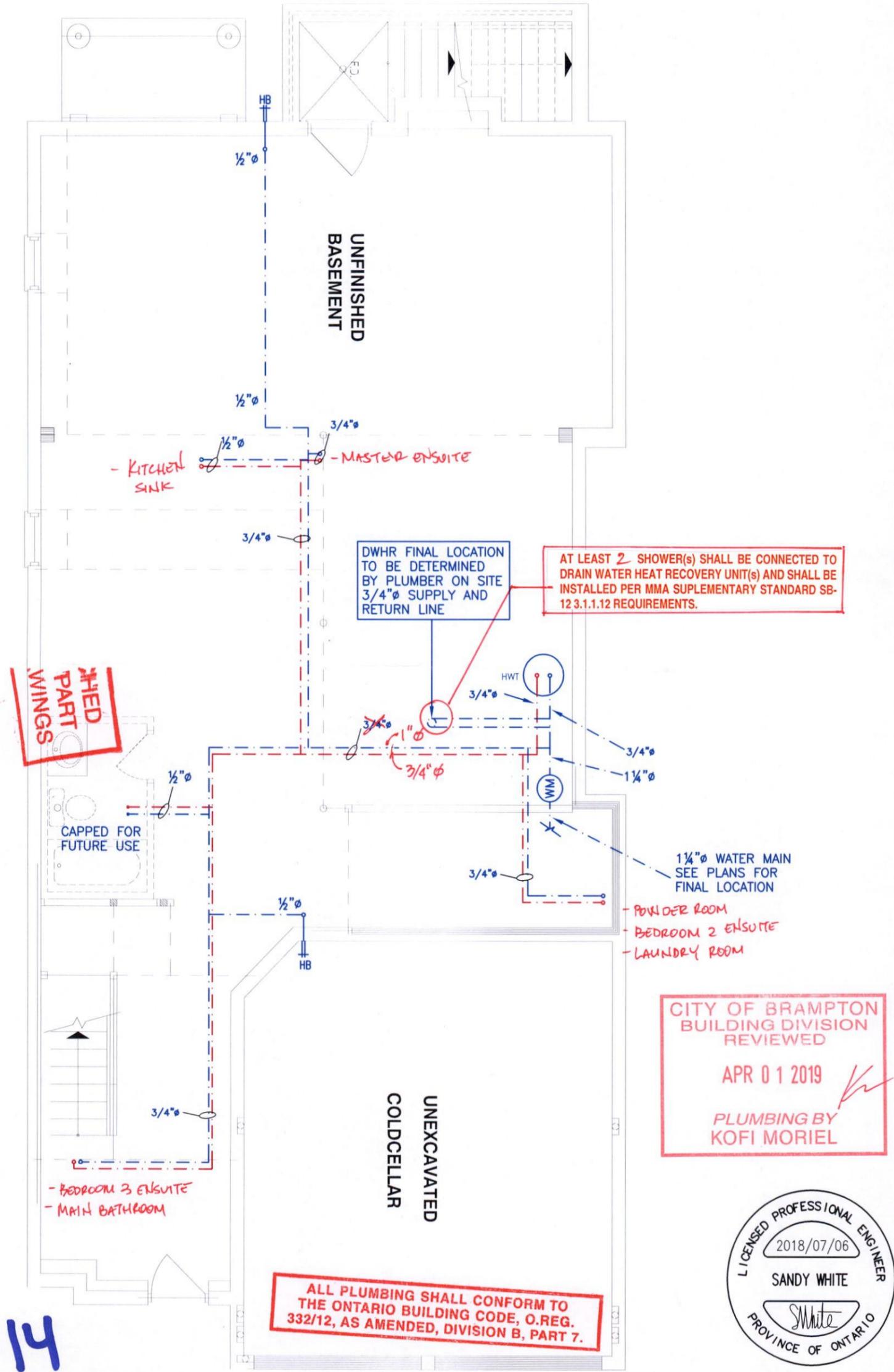
**PLEASE SEE THE ATTACHED NOTES AS THEY FORM PART OF THE REVIEWED DRAWINGS**

NOTES

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"Ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"Ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

LEGEND

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
	WATER METER, PROVIDE SUPPLY PIPE SIZE/ Ø
	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
	FLOOR DRAIN



CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED  
  
APR 01 2019  
  
PLUMBING BY  
KOFI MORIEL

LICENSED PROFESSIONAL ENGINEER  
2018/07/06  
SANDY WHITE  
PROVINCE OF ONTARIO

Lot 14

Client  
GREENYORK HOMES  
  
Project Name  
GRANELLI HOMES CORP  
BRAMPTON, ONTARIO  
  
ALT 2ND  
AMELIA 3      2970 sqft

**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  
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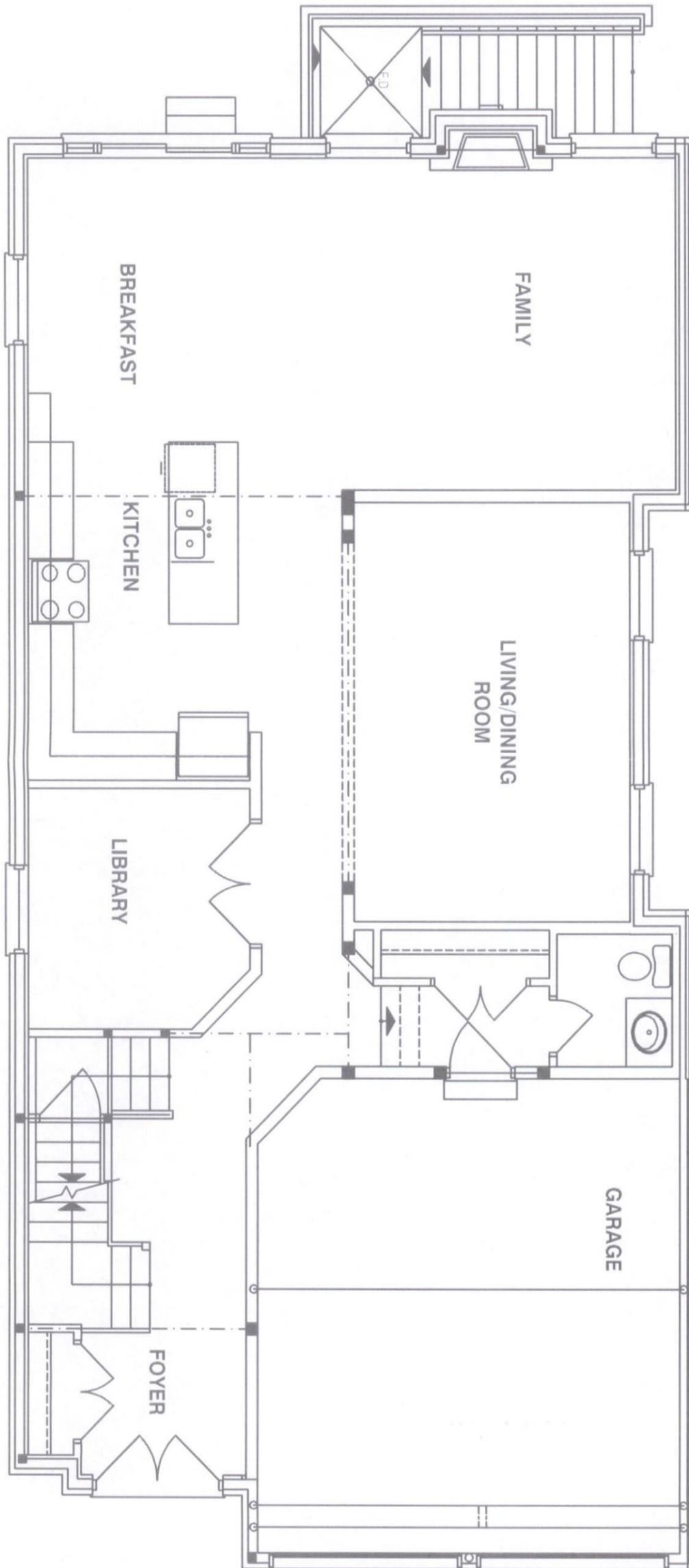
Sheet Title  
BASEMENT  
PLUMBING  
LAYOUT  
  
Date  
JULY 2018  
  
Scale  
3/16" = 1'-0"  
  
LO#      78990-P

**NOTES**

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"Ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"Ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

**LEGEND**

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
	WATER METER, PROVIDE SUPPLY PIPE SIZE/ Ø
	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
	FLOOR DRAIN



CITY OF BRAMPTON  
 BUILDING DIVISION  
 REVIEWED  
  
 APR 01 2019  
  
 PLUMBING BY  
 KOFI MORIEL



Client  
**GREENYORK HOMES**

Project Name  
**GRANELLI HOMES CORP**  
**BRAMPTON, ONTARIO**  
**M-2057 LOT 14**  
**ALT 2ND**  
**AMELIA 3**      2970 sqft

**HVACDESIGNS LTD.**

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Sheet Title  
**FIRST FLOOR**  
**PLUMBING**  
**LAYOUT**

Date    JULY 2018

Scale    3/16" = 1'-0"

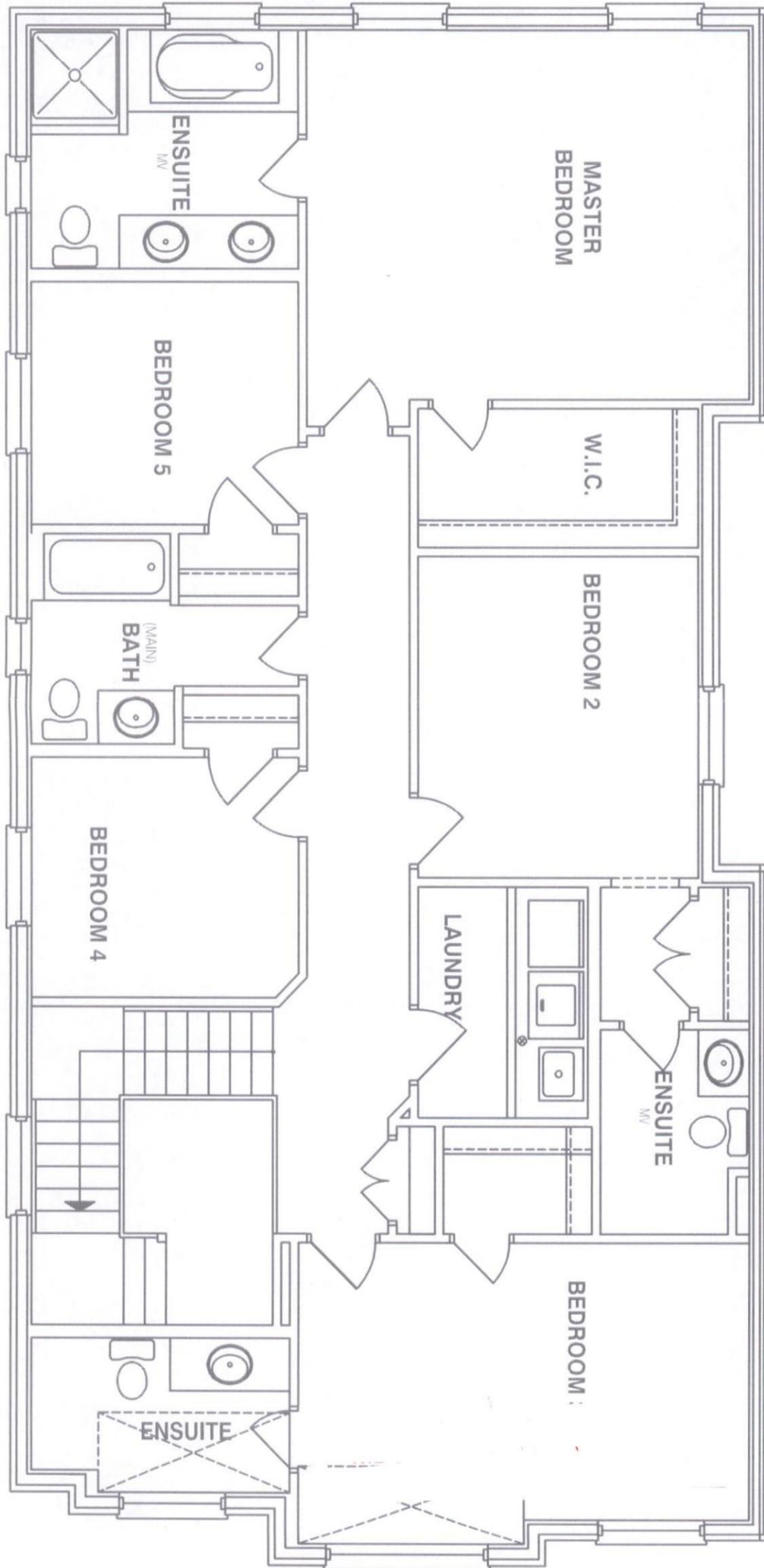
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**M-2057 LOT 14**  
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Sheet Title  
**SECOND FLOOR**  
**PLUMBING**  
**LAYOUT**

Date    JULY 2018

Scale    3/16" = 1'-0"

LO#    78990-P