

19-44463 000 00 RR

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 AMELIA 2, EL-2

A. Project Information

Building number, street name	Unit number	Lot/Con 7
Municipality City of Brampton	Postal code	Reg. Plan number / other description 43M-2057

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

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
☐ Zone 1 (< 5000 degree days)	☐ ≥ 92% AFUE	☐ Gas ☐ Propane ☐ Solid Fuel
☐ Zone 2 (≥ 5000 degree days)	☐ ≥ 84% < 92% AFUE	☐ Oil ☐ Electric ☐ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = 345.33 m ² or _____ ft ²	W, S & G % = 8.55%	☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement
Area of W, S & G = 29.52 m ² or _____ ft ²	Utilize window averaging: ☐ Yes ☐ No	☐ Slab-on-ground ☐ Walkout Basement
		☐ Air Conditioning ☐ Combo Unit
		☐ Air Sourced Heat Pump (ASHP)
		☐ Ground Sourced Heat Pump (GSHP)

D. Building Specifications (provide values and ratings of the energy efficiency components proposed)

Energy Efficiency Substitutions			
☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6)) ☐ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7)) ☐ Airtightness substitution(s)			
Airtightness test required (Refer to Design Guide Attached)		Table 3.1.1.4.B Required: _____ Permitted Substitution: _____ Table 3.1.1.4.C Required: _____ Permitted Substitution: _____ Required: _____ Permitted Substitution: _____	
Building Component	Minimum RSI / R values or Maximum U-Value ⁽¹⁾	Building Component	Efficiency Ratings
Thermal Insulation	Nominal Effective	Windows & Doors Provide U-Value ⁽¹⁾ 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	Mechanicals	
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 2
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/(m².K) or Btu/(h.ft².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 Walter Botter Jardin Design Group Inc.	BCIN 21031 27763	Signature

SITE NAME: GRANELLI HOME CORP

BUILDER: GREENYORK HOMES

TYPE: AMELIA 2

GFA: 2818

DATE: Jun-18

LO# 78988

WINTER NATURAL AIR CHANGE RATE 0.315

SUMMER NATURAL AIR CHANGE RATE 0.112

HEAT LOSS AT 'E' 74

HEAT GAIN $\Delta T^{\circ}F$ 12

CEA-H280-12

SR-12 PACKAGE A4

BUILDING: GREENTOWN HOMES				TYPE: AMELIA 2				GFA: 2818				LOF: 7898				SUMMER NATURAL AIR CHANGE RATE: 0.112				HEAT GAIN ΔT °F: 12		SB-12 PACKAGE A	
ROOM USE		MBR		ENS		WIC		BED-2		BED-3		BED-4		ENS-2						ENS-3/4			
EXP. WALL		33		24		12		37		30		13		10						7			
CLG. HT.		9		9		9		9		9		9		9						9			
FACTORS																							
GRS.WALL AREA		297		216		108		333		270		117		90						63			
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN						LOSS GAIN			
NORTH		20.8	15.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EAST		20.8	41.3	0	0	0	0	0	0	45	936	1860	26	540	1075	0	0	0	0	0	0	0	
SOUTH		20.8	24.7	0	0	0	0	0	0	0	0	0	15	312	370	0	0	0	0	0	7	145	
WEST		20.8	41.3	28	540	1075	13	270	537	0	0	0	0	0	0	0	0	0	0	0	0	0	
SKYL.T.		38.4	101.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DOORS		24.7	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL		4.4	0.7	271	1181	191	203	884	143	108	471	76	288	1265	203	244	1063	172	102	444	72	90	
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.6	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	303	380	174	141	177	81	89	112	51	300	376	172	209	262	120	150	188	86	164	
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	
EXPOSED FLOOR		2.5	0.4	0	0	0	0	0	0	300	747	121	0	0	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS		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	
SUBTOTAL HT LOSS		2101		1331		582		3313		1865		944		598						518			
SUB TOTAL HT GAIN				1439		761		127		2356		1365		528		168						271	
LEVEL FACTOR / MULTIPLIER		0.20	0.31			0.20	0.31			0.20	0.31			0.20	0.31			0.20	0.31				
AIR CHANGE HEAT LOSS		648		411		180		1022		675		291		184						160			
AIR CHANGE HEAT GAIN				115		51		10		189		109		42		13						22	
DUCT LOSS		0		0		0		433		0		0		0						0			
DUCT GAIN		0		0		0		338		0		0		0						0			
HEAT GAIN PEOPLE		240	2	480	0	0	0	0	1	240	1	240	1	240	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS				573		0		573		573		573		573						0			
TOTAL HT LOSS BTU/H		2748		1742		762		4768		2440		1235		782						678			
TOTAL HT GAIN x 1.3 BTU/H		3390		1089		179		4801		2978		1799		221						381			

ROOM USE	FAM	LV/DN	KT/BR	LAUN	PWD	FOY				WUB	BAS
EXP. WALL	31	29	42	19	8	29				16	147
CLG. HT.	11	11	11	12	11	11				9	9
FACTORS											
GRS.WALL AREA	LOSS	GAIN									
GLAZING	341	319	462	228	88	319				136	882
NORTH	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS				OSS	LOSS
EAST	0	0	0	0	0	0				0	0
SOUTH	0	0	0	0	0	0				0	0
WEST	0	0	0	0	0	0				0	0
SKYL.T.	46	856	1901	0	0	0				3	82
DOORS	24.7	4.0	0	0	0	0				0	0
NET EXPOSED WALL	4.4	0.7	295	1285	208	280	1220	197	406	1769	286
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	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
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS											
SLAB ON GRADE HEAT LOSS											
SUBTOTAL HT LOSS	2241		2030		2932						
SUB TOTAL HT GAIN		2109		1160		2600					
LEVEL FACTOR / MULTIPLIER	0.30	0.46	0.30	0.46	0.30	0.46					
AIR CHANGE HEAT LOSS	1016		920		1329						
AIR CHANGE HEAT GAIN		169		93		208					
DUCT LOSS	0		0		0						
DUCT GAIN		0		0		0					
HEAT GAIN PEOPLE	240	0	0	0	0	0					
HEAT GAIN APPLIANCES/LIGHTS		573		573		573					
TOTAL HT LOSS BTU/H	3267		2960		4261						
TOTAL HT GAIN x 1.3 BTU/H		3706		2373		4397					

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BUILDING DIVISION
REVIEWED BY: S. DESAI
MAR 2 6 2019

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

TOTAL HEAT GAIN BTU/H:

29865

TONS: 2.49

LOSS DUE TO VENTILATION LOAD BTU/H: 1629

STRUCTURAL HEAT LOSS: 49080

TOTAL COMBINED HEAT LOSS BTU/H: 50609

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 RCIN: 19669

MICHAEL O'BROURKE

M-2057 LOT 7 19-444463 000008A

SITE NAME: GRANELLI HOME CORP
BUILDING: GREENYORK HOMES

TYPE: AMELIA 2

DATE: Jun-18

GFA: 2818 LO# 78988

HEATING CFM 970 COOLING CFM 970
TOTAL HEAT LOSS 49,080
AIR FLOW RATE CFM 32.75AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	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	10	11	12	13	14	15	16	17	18	19	21	22	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	BED-2	MBR	ENS-3/4	FAM	LV/DN	KT/BR	KT/BR	FAM	LAUN	PWD	FOY	BAS	BAS	BAS
RM LOSS MBH	1.37	1.74	0.78	2.38	2.44	1.24	0.78	2.38	1.37	0.68	1.63	2.95	2.13	2.13	1.63	2.34	0.72	3.37	4.26	4.26	4.26
CFM PER RUN HEAT	27	34	15	47	48	24	15	47	27	13	32	58	42	42	32	46	14	67	84	84	84
RM GAIN MBH	1.70	1.07	0.18	2.40	2.98	1.80	0.22	2.40	1.70	0.38	1.85	2.37	2.20	2.20	1.85	1.19	0.32	0.90	0.48	0.48	0.48
CFM PER RUN COOLING	58	35	8	79	97	59	7	79	58	12	61	78	72	72	61	39	11	28	18	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	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
ACTUAL DUCT LGH	48	38	32	67	70	45	35	64	41	65	40	33	28	18	30	29	47	48	36	13	35
EQUIVALENT LENGTH	180	160	160	180	170	150	130	170	180	210	160	110	120	120	150	140	130	100	90	100	100
TOTAL EFFECTIVE LENGTH	228	198	192	247	240	195	165	234	221	275	200	143	146	138	180	169	177	148	128	113	135
ADJUSTED PRESSURE	0.08	0.09	0.09	0.07	0.07	0.09	0.1	0.07	0.08	0.06	0.09	0.12	0.12	0.12	0.12	0.1	0.1	0.12	0.13	0.14	0.12
ROUND DUCT SIZE	5	4	4	6	6	6	4	6	5	4	5	5	5	5	5	4	4	5	6	6	6
HEATING VELOCITY (ft/min)	198	390	172	240	245	122	172	240	198	149	235	426	308	308	235	528	161	492	428	428	428
COOLING VELOCITY (ft/min)	411	402	69	403	495	301	80	403	411	138	448	573	528	529	448	447	126	213	82	82	82
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	A	A	B	C	C	B	D	C	A	C	A	D	A	A	A	D	C	C	B	B	D

RUN #	25
ROOM NAME	BAS
RM LOSS MBH	4.26
CFM PER RUN HEAT	84
RM GAIN MBH	0.48
CFM PER RUN COOLING	16
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH	52
EQUIVALENT LENGTH	110
TOTAL EFFECTIVE LENGTH	162
ADJUSTED PRESSURE	0.1
ROUND DUCT SIZE	6
HEATING VELOCITY (ft/min)	428
COOLING VELOCITY (ft/min)	82
OUTLET GRILL SIZE	4X10
TRUNK	C

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MAR 26 2019
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SUPPLY AIR TRUNK SIZE	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	RETURN AIR TRUNK SIZE	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	236	0.08	8.2	10	425	TRUNK G	0	0.00	0	0	TRUNK O	0	0.06	0	0	8
TRUNK B	443	0.08	10.3	14	570	TRUNK H	0	0.00	0	0	TRUNK P	0	0.06	0	0	8
TRUNK C	320	0.06	9.8	12	480	TRUNK I	0	0.00	0	0	TRUNK Q	0	0.06	0	0	8
TRUNK D	523	0.06	11.8	16	588	TRUNK J	0	0.00	0	0	TRUNK R	0	0.06	0	0	8
TRUNK E	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	TRUNK S	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	TRUNK T	0	0.06	0	0	8
RETURN AIR #	1	2	3	4	5	6	0	0	0	0	TRUNK U	0	0.06	0	0	8
AIR VOLUME	85	95	85	95	85	350	0	0	0	0	TRUNK V	0	0.06	0	0	8
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	TRUNK W	0	0.06	0	0	8
ACTUAL DUCT LGH	48	63	62	50	48	28	1	1	1	1	TRUNK X	970	0.06	14.9	26	8
EQUIVALENT LENGTH	220	135	140	175	215	175	0	0	0	0	TRUNK Y	0	0.06	0	0	8
TOTAL EFFECTIVE LH	266	198	202	225	261	204	1	1	1	1	TRUNK Z	0	0.06	0	0	8
ADJUSTED PRESSURE	0.06	0.07	0.07	0.07	0.06	0.06	14.80	14.80	14.80	14.80	DROP	970	0.06	14.9	24	10
ROUND DUCT SIZE	6	6	6	8	8	8	0	0	0	0						
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X						
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0						

TYPE: AMELIA 2
SITE NAME: GRANELLI HOME CORP

LO # 78988

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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	180.2 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	180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	100.7	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	LIFEBREATH RNC5-HEX
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	0.24

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-3/4	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	LIFEBREATH RNC5-HEX	
108 cfm high	59 cfm low	
76 % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	June-18

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** AMELIA 2**BUILDER:** GREENYORK HOMES**SFQT:** 2818**LO#** 78988**SITE:** GRANELLI HOME CORP**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	74

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):	39046.0	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: 51.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	147.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component**

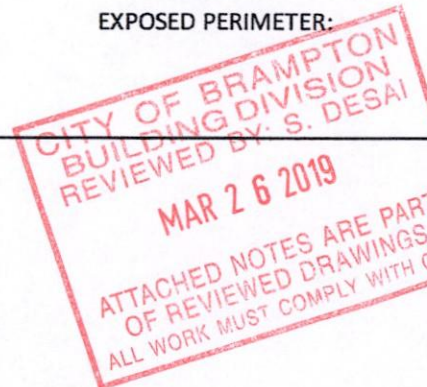
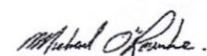
Ceiling with Attic Space Minimum RSI (R)-Value
Ceiling Without Attic Space Minimum RSI (R)-Value
Exposed Floor Minimum RSI (R)-Value
Walls Above Grade Minimum RSI (R)-Value
Basement Walls Minimum RSI (R)-Value
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value
Windows and Sliding Glass Doors Maximum U-Value
Skylights Maximum U-Value
Space Heating Equipment Minimum AFUE
HRV Minimum Efficiency
Domestic Hot Water Heater Minimum EF

Compliance Package**A1**

Nominal	Min. Eff.
60	59.22
31	27.65
31	29.80
22	17.03
20 ci	21.12
-	-
10	10
10	11.13
0.28	-
0.49	-
0.96	-
75%	-
0.8	-

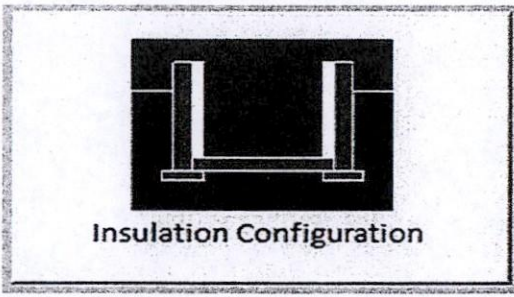
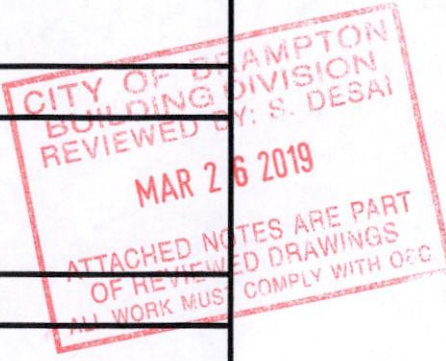
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

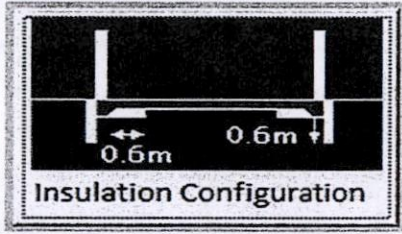
Supplemental tool for CAN/CSA-F280

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):	15.5	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	44.8	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.1	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1459	

TYPE: AMELIA 2
LO# 78988

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):	4.0	
Width (m):	0.6	
Exposed Perimeter (m):	4.6	
Radiant Slab		
Heated Fraction of the Slab:	0	CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: A. DESAI MAR 26 2019 ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		27

TYPE: AMELIA 2
LO# 78988



HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

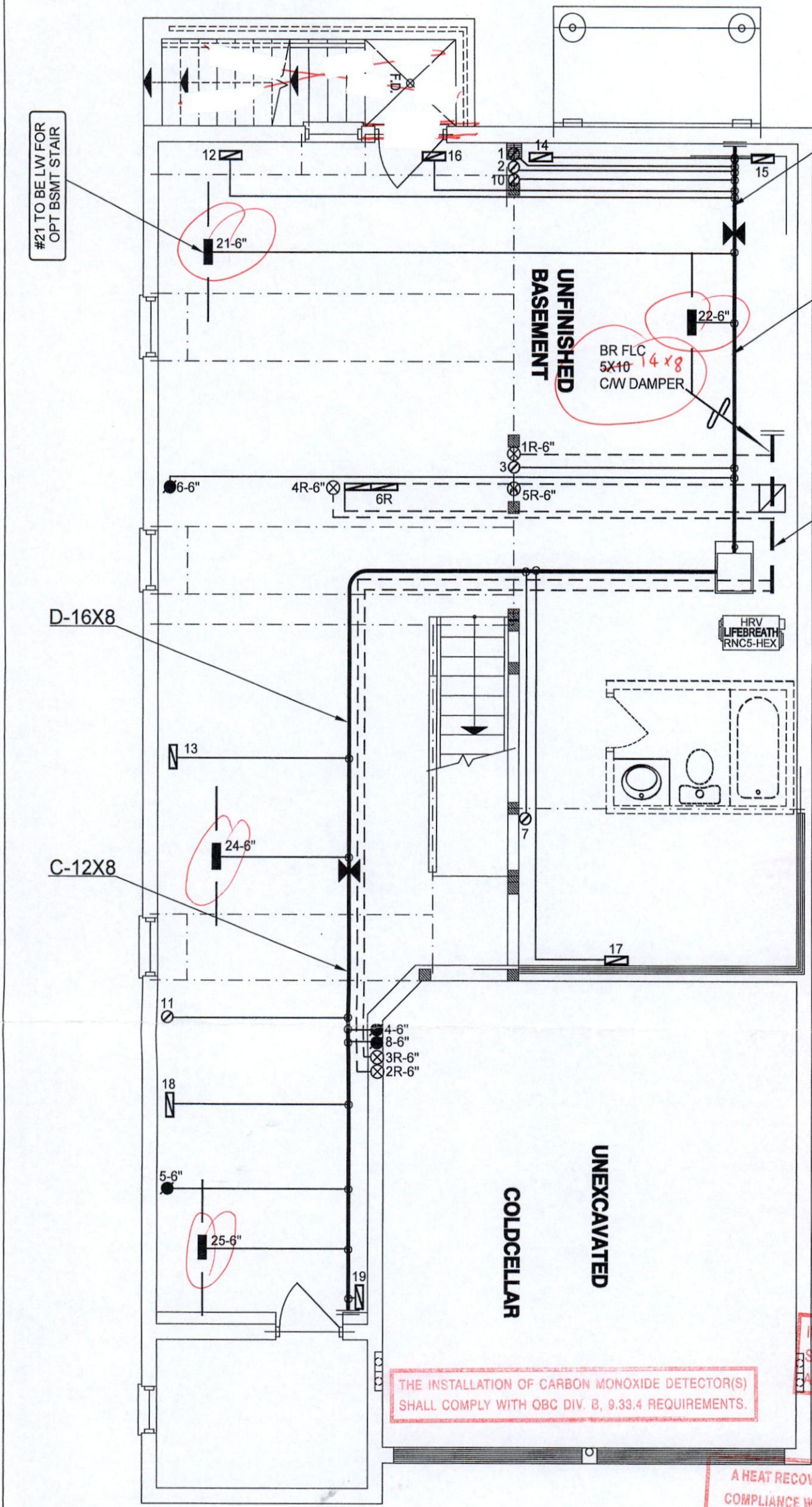
Air Infiltration Residential Load Calculator

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):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1105.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1473.9 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):	0.335			
Cooling Air Leakage Rate (ACH/H):	0.112			

TYPE: AMELIA 2
LO# 78988

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: C. DESAI
MAR 26 2019
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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 OR 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 UNDERCUT BY MIN 1".
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).

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

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, 6.2.1.5, 9.32.3.6(3), 9.32.3.11 AND HRAI DIGEST REQUIREMENTS.

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

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

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

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Client

GREENYORK HOMES

Project Name

**GRANELLI HOMES CORP
BRAMPTON, ONTARIO**

M-2057 LOT 7

AMELIA 2

2818 sqft

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@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 50609 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE CARRIER	2ND FLOOR	10	5	3
MODEL 59SP5A-60-12	1ST FLOOR	8	2	3
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 2.5 TONS				
FAN SPEED 970 cfm @ 0.6" w.c.				

Sheet Title

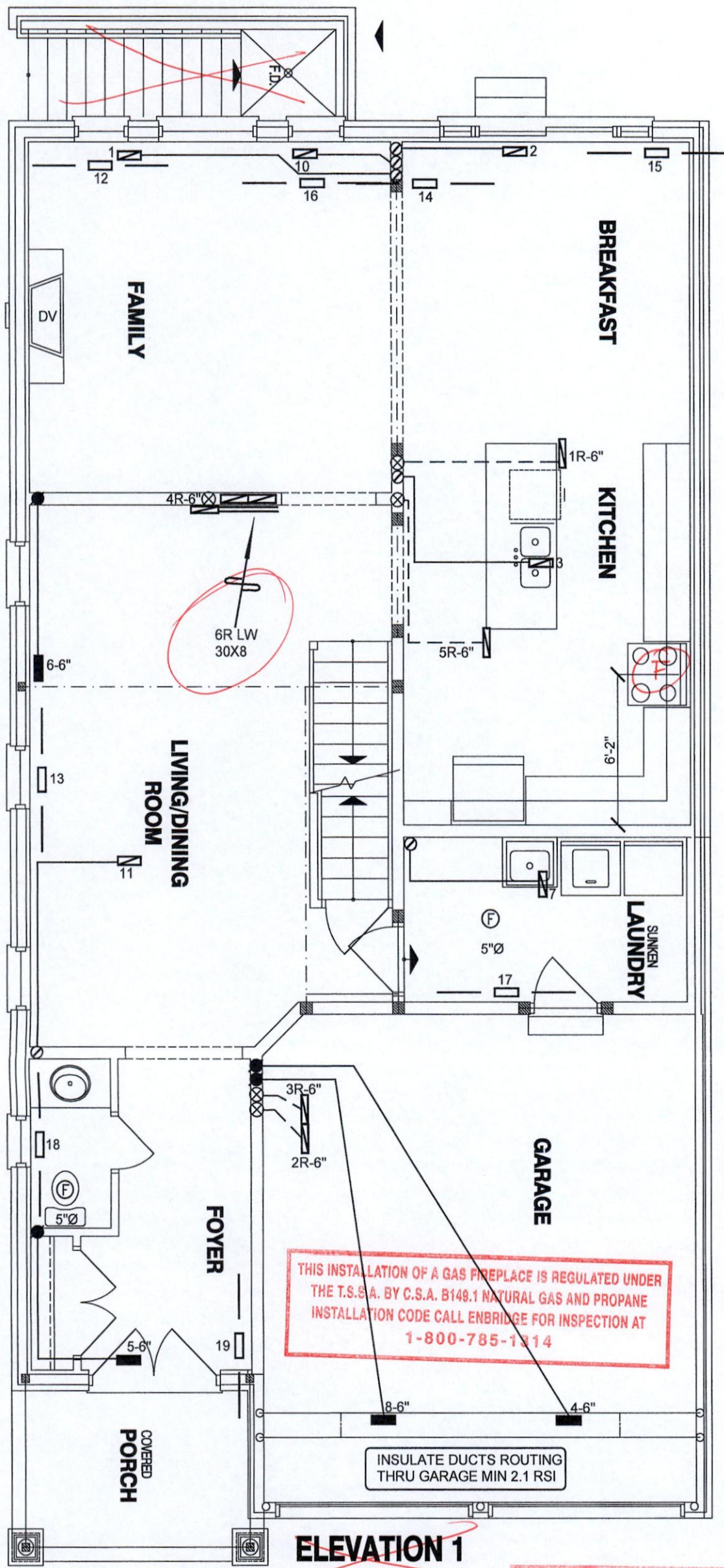
BASEMENT HEATING LAYOUT

Date JUNE/2018

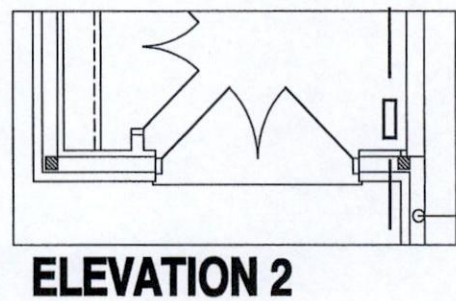
Scale 3/16" = 1'-0"

BCIN# 19669

LO# 78988



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
MAR 26 2019
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ELEVATION 1

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.

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
1-800-785-1814

INSULATE DUCTS ROUTING
THRU GARAGE MIN 2.1 RSI

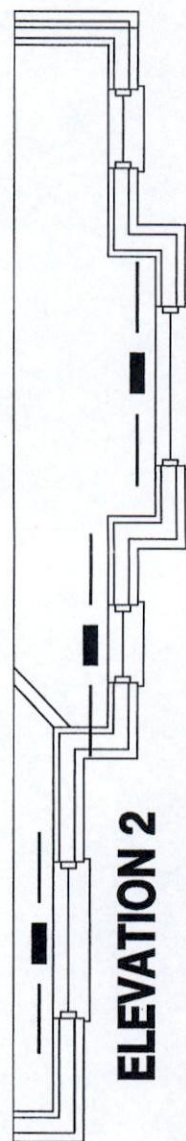
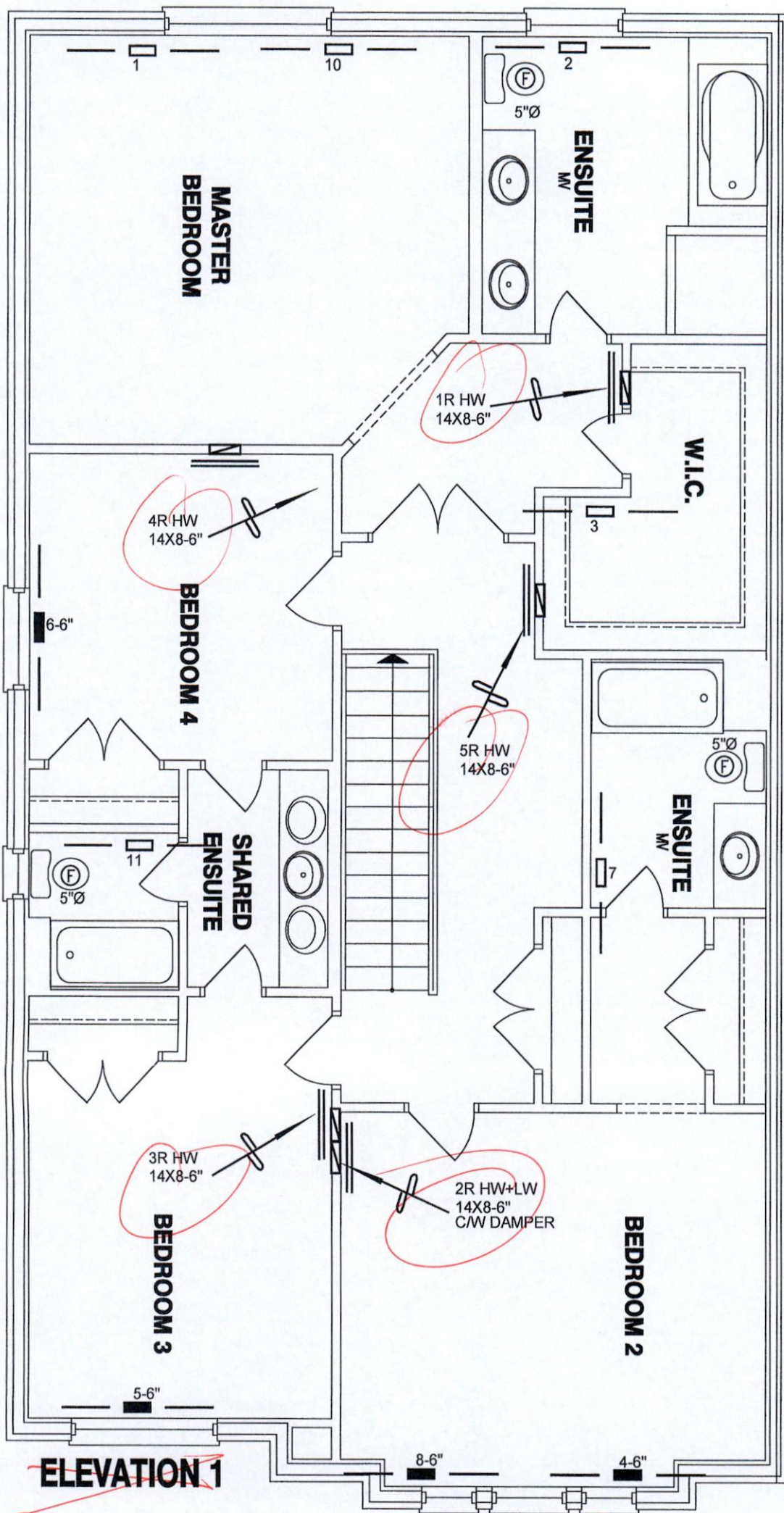
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BUILDING CODE.
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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Client GREENYORK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO M-2057 LOT 7 AMELIA 2 2818 sqft			Date JUNE/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 78988	
		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.		



ELEVATION 1

CITY OF BRAMPTON
BUILDING DIVISION
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MAR 26 2019
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THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S)
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MECHANICAL VENTILATION SHALL BE PROVIDED IN
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Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO M-2057 LOT 7 AMELIA 2 2818 sqft			Date JUNE/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 78988	
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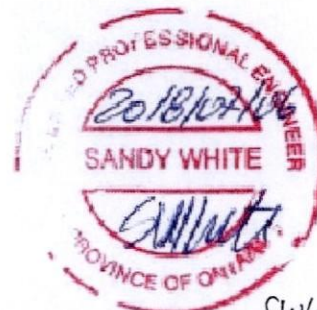
Planning and Development Services
Building Division
8850 McLaughlin Road, Unit 1
Brampton, ON L6Y 5T1

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 2 (LO#78988-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⁽⁶⁾ or powder room groups⁽⁷⁾ 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 ⁽⁶⁾	1		3	
Bidet				
Extra Shower			1	
Lav			1	
Bar Sink				
Powder room ⁽⁷⁾		1		
Kitchen Sink		1		
Dishwasher		1		
Laundry Tub		1		
Washing Machine		1		
Hose Bib		2		

Total Fixture Units 30

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.

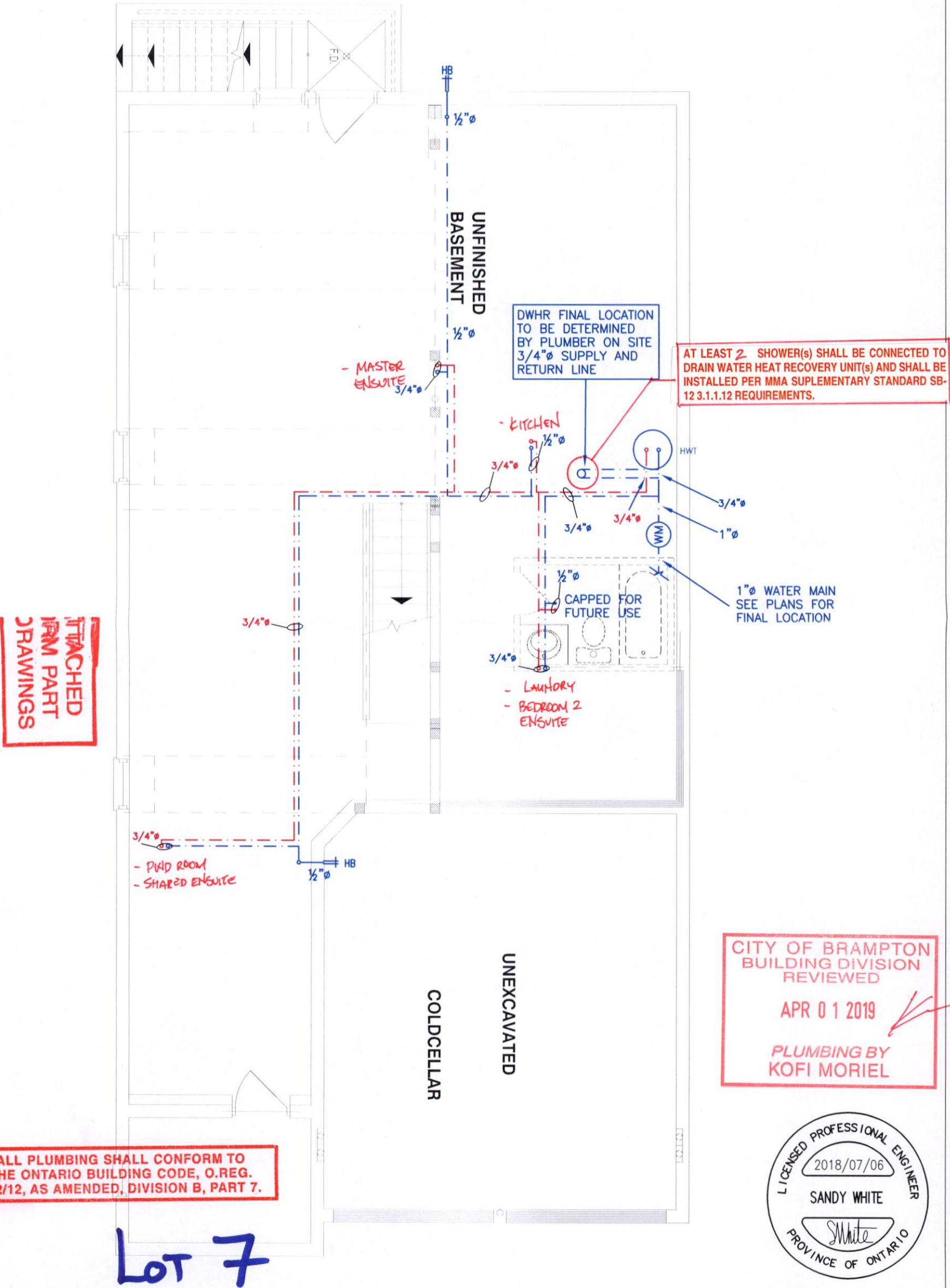
PLEASE SEE THE A
NOTES AS THEY FO
OF THE REVIEWED

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

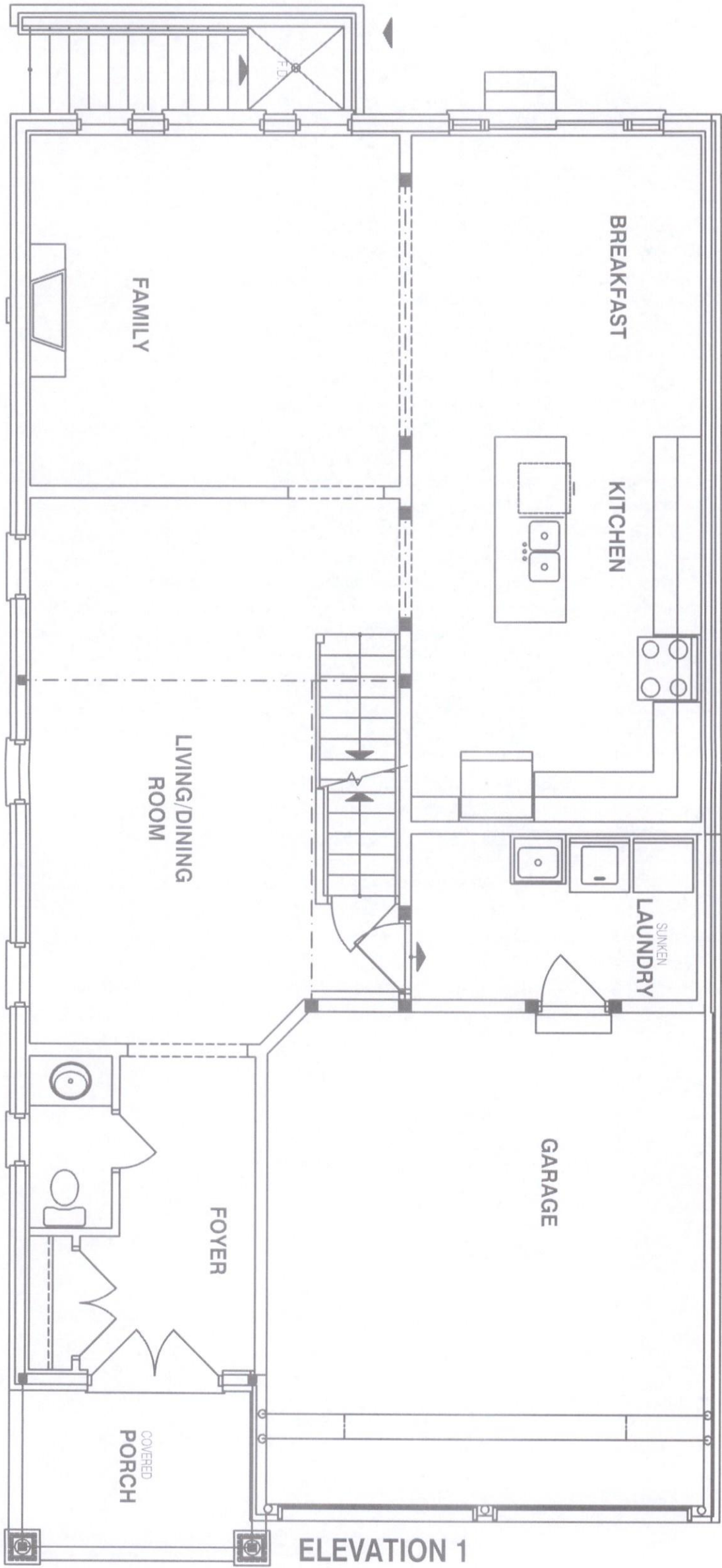


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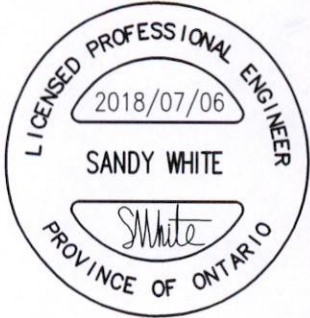
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	FLOOR DRAIN



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 7

AMELIA 2 2818 sqft



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Sheet Title
FIRST FLOOR
PLUMBING
LAYOUT

Date JULY 2018

Scale 3/16" = 1'-0"

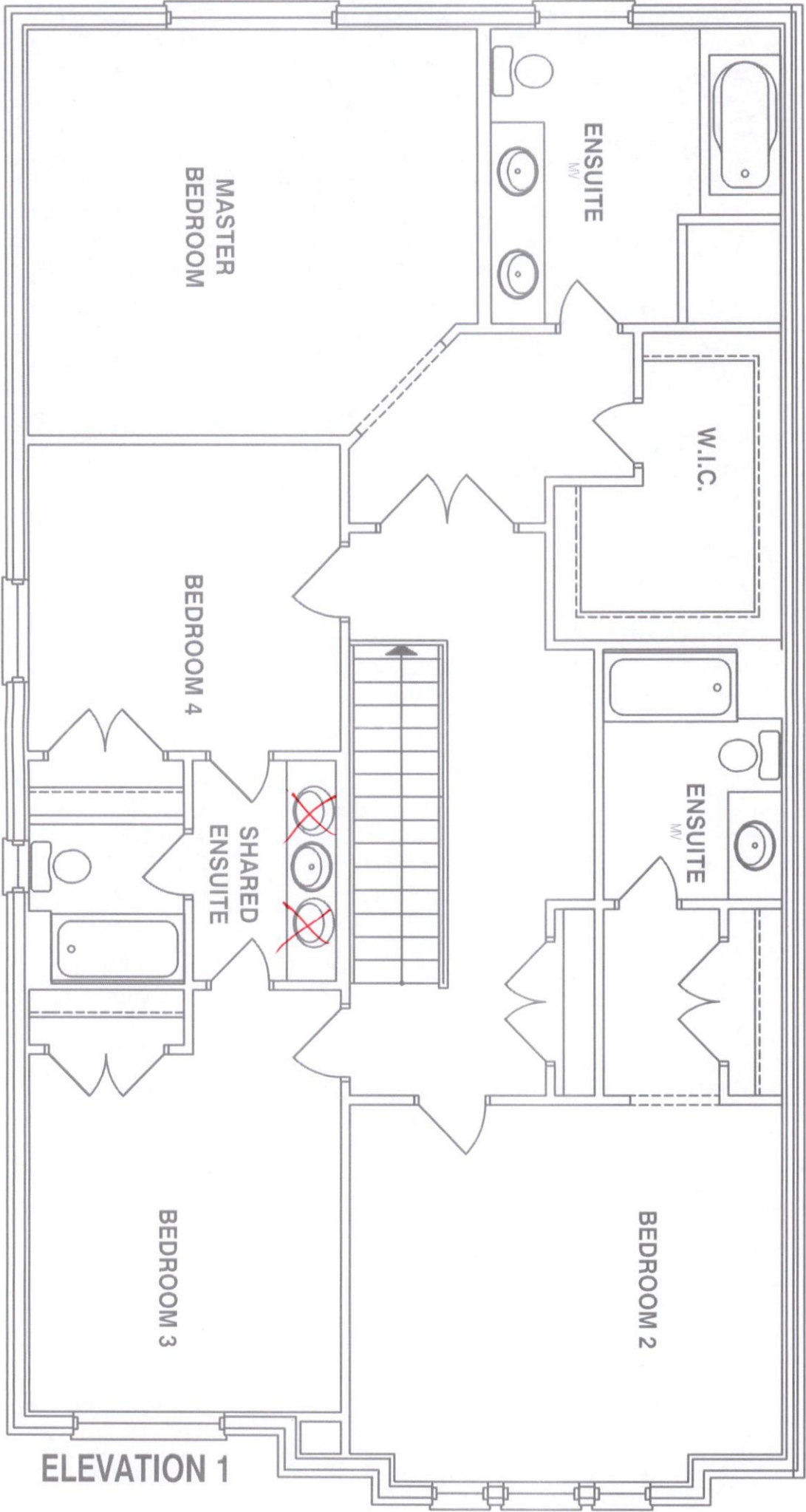
LO# 78988-P

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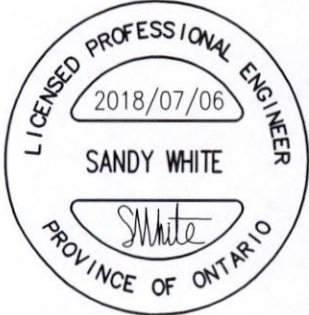
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	PROPOSED COLD WATER LINE & RISER
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	FLOOR DRAIN



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 7
AMELIA 2 2818 sqft

HVACDESIGNS LTD.

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Sheet Title
SECOND FLOOR
PLUMBING
LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

LO# 78988-P