

19-44489 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 LIANA 3, EL-2

A. Project Information

Building number, street name		Unit number	Lot/Con 19
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

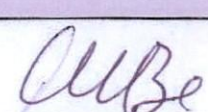
Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
<input type="checkbox"/> Zone 1 (< 5000 degree days)	<input type="checkbox"/> ≥ 92% AFUE	<input type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 84% < 92% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = 287.54 m ² or _____ ft ²		<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement
W, S & G % = 8.87%		<input type="checkbox"/> Slab-on-ground <input type="checkbox"/> Walkout Basement
Area of W, S & G = 25.5 m ² or _____ ft ²		<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)		<input type="checkbox"/> Table 3.1.1.4.B Required: _____ Permitted Substitution: _____		
Airtightness test required (Refer to Design Guide Attached)		<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 ⁽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: LIANA 3

GFA: 2292

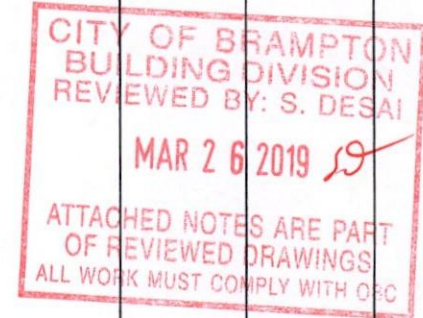
DATE: Jun-18
LO# 79001

WINTER NATURAL AIR CHANGE RATE 0.335
SUMMER NATURAL AIR CHANGE RATE 0.119

HEAT LOSS AT "F. 74
HEAT GAIN AT "F. 14

CSA-F280-12*
SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH					
			36	21	15	33	28	12	7					
			9	9	9	9	9	9	9					
FACTORS														
GRS.WALL AREA	LOSS	GAIN	324	189	135	297	252	108	63					
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN				
NORTH	20.8	16.3	0	0	0	0	0	0	0	0				
EAST	20.8	41.9	0	0	0	0	0	0	0	0				
SOUTH	20.8	25.2	0	0	0	0	0	0	16	332	404	8	166	202
WEST	20.8	41.9	28	582	1173	12	249	503	0	0	0	0	0	0
SKYLT.	36.4	102.1	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
NET EXPOSED WALL	4.4	0.8	296	1290	243	177	771	146	135	688	111	253	1102	208
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	320	401	195	110	138	67	150	188	91	228	286	139
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	20	54	26
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	40	100	19
BASEMENT/CRAWL HEAT LOSS			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
SUBTOTAL HT LOSS			2272	1158	776	2870	1882	1034	607					
SUB TOTAL HT GAIN				1611	715	202	2297	1452	625	324				
LEVEL FACTOR / MULTIPLIER	0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27
AIR CHANGE HEAT LOSS			607	309	207	767	503	276	162					
AIR CHANGE HEAT GAIN				139	61	17	198	125	54	28				
DUCT LOSS			0	0	0	0	364	239	0	77				
DUCT GAIN			0	0	0	0	329	237	0	35				
HEAT GAIN PEOPLE	240		2	480	0	0	1	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				552	0	0	552	552		552	0	0	0	0
TOTAL HT LOSS BTU/H			2880	1468	984	4000	2624	1310	846					
TOTAL HT GAIN x 1.3 BTU/H			3616	1009	285	4700	3388	1913	503					



ROOM USE	EXP. WALL	CLG. HT.	DIN	KIT	FAM	LAUN	W/R	FOY						
			16	33	32	27	19	23						
			11	11	11	12	11	11						
FACTORS														
GRS.WALL AREA	LOSS	GAIN	176	363	352	324	209	253						
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN				
NORTH	20.8	16.3	0	0	0	0	0	0	0	0				
EAST	20.8	41.9	0	0	0	0	0	0	9	187	377	3	62	126
SOUTH	20.8	25.2	28	582	707	0	0	0	0	0	0	0	0	0
WEST	20.8	41.9	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
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	148	645	122	312	1359	256	319	1390	262	304	1325	250
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	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
EXPOSED FLOOR	2.5	0.5	0	0	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	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1227	2419	2075	1818	1058	1557						
SUB TOTAL HT GAIN				828	2393	1645	343	541	408					
LEVEL FACTOR / MULTIPLIER	0.30	0.42		0.30	0.42		0.30	0.42		0.30	0.42		0.30	0.42
AIR CHANGE HEAT LOSS			513	1012	868	760	443	652						
AIR CHANGE HEAT GAIN				71	206	141	29	47	35					
DUCT LOSS			0	0	0	0	0	0	0					
DUCT GAIN			0	0	0	0	0	0	0					
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				552	552	552	552	552		552	0	0	0	0
TOTAL HT LOSS BTU/H			1740	3431	2944	2578	1501	2209		1190	14229			
TOTAL HT GAIN x 1.3 BTU/H			1887	4096	3040	1202	764	576		292	1812			

TOTAL HEAT GAIN BTU/H:

29372

TONS: 2.45

LOSS DUE TO VENTILATION LOAD BTU/H: 1529

STRUCTURAL HEAT LOSS: 43934

TOTAL COMBINED HEAT LOSS BTU/H: 45463

Michael O'Rourke

M-2057 LOT 19 19-444489 00000000

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMES

TYPE: LIANA 3

DATE: Jun-18

GFA: 2292

LO# 79001

HEATING CFM 970 COOLING CFM 970
TOTAL HEAT LOSS 43,934 TOTAL HEAT GAIN 29,084
AIR FLOW RATE CFM 22.08 AIR FLOW RATE CFM 33.35

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 = 970
CFM @ .8" E.S.P.

TEMPERATURE RISE 55 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	8	4
R/A	0	0	4	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	12	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	DIN	KIT	KIT	FAM	LAUN	W/R	FOY	FAM	BAS	BAS	BAS	BAS
RM LOSS MBH	1.44	1.47	0.98	2.00	1.31	1.31	0.85	2.00	1.31	1.44	1.74	1.72	1.72	1.47	2.58	1.50	2.21	1.47	3.85	3.85	3.85	3.85
CFM PER RUN HEAT	32	32	22	44	29	29	19	44	29	32	38	38	38	33	57	33	49	33	85	85	85	85
RM GAIN MBH	1.81	1.01	0.29	2.35	1.69	1.91	0.50	2.35	1.69	1.81	1.89	2.05	2.05	1.52	1.20	0.76	0.58	1.52	0.53	0.53	0.53	0.53
CFM PER RUN COOLING	60	34	10	78	56	64	17	78	56	60	63	68	68	51	40	25	19	51	18	18	18	18
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	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	34	60	36	47	45	22	24	51	44	49	12	26	37	35	32	26	32	40	31	21	14	27
EQUIVALENT LENGTH	150	160	160	140	140	150	140	140	190	150	170	140	140	140	130	140	150	160	180	160	170	150
TOTAL EFFECTIVE LENGTH	184	220	196	187	185	172	164	191	234	199	182	166	177	175	162	166	182	200	211	181	184	177
ADJUSTED PRESSURE	0.09	0.08	0.09	0.09	0.09	0.1	0.1	0.09	0.07	0.09	0.09	0.1	0.1	0.1	0.11	0.1	0.09	0.09	0.08	0.09	0.09	0.09
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	5	5	5	4	5	4	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	235	367	252	323	213	213	218	323	213	235	279	279	279	379	419	379	562	379	433	433	433	433
COOLING VELOCITY (ft/min)	441	390	115	573	411	470	195	573	411	441	463	499	499	585	294	287	218	585	92	92	92	92
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	B	B	E	D	C	E	E	D	A	E	C	C	A	B	D	D	A	A	C	E	D

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
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CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI

MAR 26 2019

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

SUPPLY AIR TRUNK SIZE

TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK A 183	0.08	7.4	6	x 8 549	TRUNK G 0	0.00	0	0	x 8 0
TRUNK B 111	0.08	6.2	4	x 8 500	TRUNK H 0	0.00	0	0	x 8 0
TRUNK C 516	0.08	10.9	14	x 8 663	TRUNK I 0	0.00	0	0	x 8 0
TRUNK D 225	0.07	8.3	8	x 8 506	TRUNK J 0	0.00	0	0	x 8 0
TRUNK E 455	0.07	10.8	14	x 8 585	TRUNK K 0	0.00	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

RETURN AIR TRUNK SIZE

TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK O 0	0.05	0	0	x 8 0
TRUNK P 0	0.05	0	0	x 8 0
TRUNK Q 0	0.05	0	0	x 8 0
TRUNK R 0	0.05	0	0	x 8 0
TRUNK S 0	0.05	0	0	x 8 0
TRUNK T 0	0.05	0	0	x 8 0
TRUNK U 0	0.05	0	0	x 8 0
TRUNK V 0	0.05	0	0	x 8 0
TRUNK W 0	0.05	0	0	x 8 0
TRUNK X 970	0.05	15.6	28	x 8 624
TRUNK Y 530	0.05	12.4	18	x 8 530
TRUNK Z 270	0.05	9.7	12	x 8 405
DROP 970	0.05	15.6	24	x 10 582

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	12	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	135	95	95	95	135	260	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
ACTUAL DUCT LGH	54	48	46	44	23	34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	240	135	175	180	185	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	294	183	221	224	208	269	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.08	0.07	0.07	0.07	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.5	5.8	6	6	6.8	9.1	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
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

Air Infiltration Residential Load Calculator

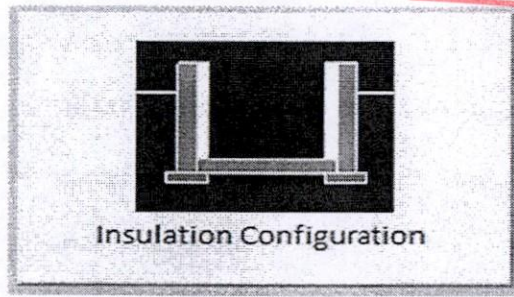
Supplemental tool for CAN/CSA-F280

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):	902.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1203.0 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):	0.119			

TYPE: LIANA 3
LO# 79001

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):	8.8	 Insulation Configuration
Floor Width (m):	13.7	
Exposed Perimeter (m):	0.0	
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):	1420	

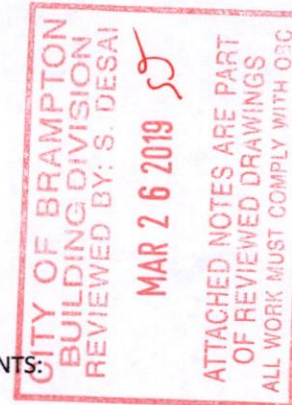
CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
MAR 26 2019ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBCTYPE: LIANA 3
LO# 79001

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** LIANA 3**BUILDER:** GREENYORK HOMES**SFQT:** 2292**LO#** 79001**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)	72

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 (ft ³):	31870.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 29.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	148.0 ft

**2012 OBC - COMPLIANCE PACKAGE****Component****Compliance Package****A1****Nominal Min. Eff.**

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: LIANA 3
SITE NAME: GRANELLI HOME CORP

LO # 79001

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) <input checked="" type="checkbox"/>	Direct vent (sealed combustion) only	
b) <input type="checkbox"/>	Positive venting induced draft (except fireplaces)	
c) <input type="checkbox"/>	Natural draft, B-vent or induced draft gas fireplace	
d) <input type="checkbox"/>	Solid Fuel (including fireplaces)	
e) <input type="checkbox"/>	No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/> Forced Air	<input type="checkbox"/> Non Forced Air
<input type="checkbox"/> Electric Space Heat	

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/>	I Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/>	II Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/>	III Any Type c) appliance	
<input type="checkbox"/>	IV Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/>	1 Exhaust only/Forced Air System	
<input type="checkbox"/>	2 HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/>	3 HRV Simplified/connected to forced air system	
<input type="checkbox"/>	4 HRV with Ducting/non forced air system	
<input type="checkbox"/>	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm	42.4 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	159.0 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	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	159	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	79.5	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: LIFE BREATH RNC5-HEX	Location: BSMT
79.5 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T ^\circ F$	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 <input checked="" type="checkbox"/> 0.3
BATH	QTXEN050C	50 <input checked="" type="checkbox"/> 0.3
WR	QTXEN050C	50 <input checked="" type="checkbox"/> 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: LIFE BREATH RNC5-HEX		
108 cfm high	59 cfm low	
76 % Sensible Efficiency	<input checked="" type="checkbox"/> 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

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

CITY OF BRAMPTON
 BUILDING DIVISION
 REVIEWED BY: S. DESAI
 MAR 26 2019
 ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
 ALL WORK MUST COMPLY WITH OBC

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

LO#: 79001

Model: LIANA 3

Builder: GREENYORK HOMES

Date: 6/19/2018

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1022	9	9198
First	1022	11	11242
Second	1270	9	11430
Third	0	9	0
Fourth	0	9	0
Total:			31,870.0 ft ³
Total:			902.5 m ³

WINTER NATURAL AIR CHANGE RATE	0.335
SUMMER NATURAL AIR CHANGE RATE	0.119

Design Temperature Difference				
	T _{in} °C	T _{out} °C	ΔT °C	ΔT °F
Winter DTD _h	22	-19	41	74
Summer DTD _c	22	30	8	14

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

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

0.335 x 250.68 x 41 °C x 1.2 = 4150 W

= 14162 Btu/h

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

= 0.119 x 250.68 x 8 °C x 1.2 = 278 W

= 947 Btu/h

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

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

80 CFM x 74 °F x 1.08 x 0.24 = 1529 Btu/h

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

80 CFM x 14 °F x 1.08 x 0.24 = 288 Btu/h

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

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

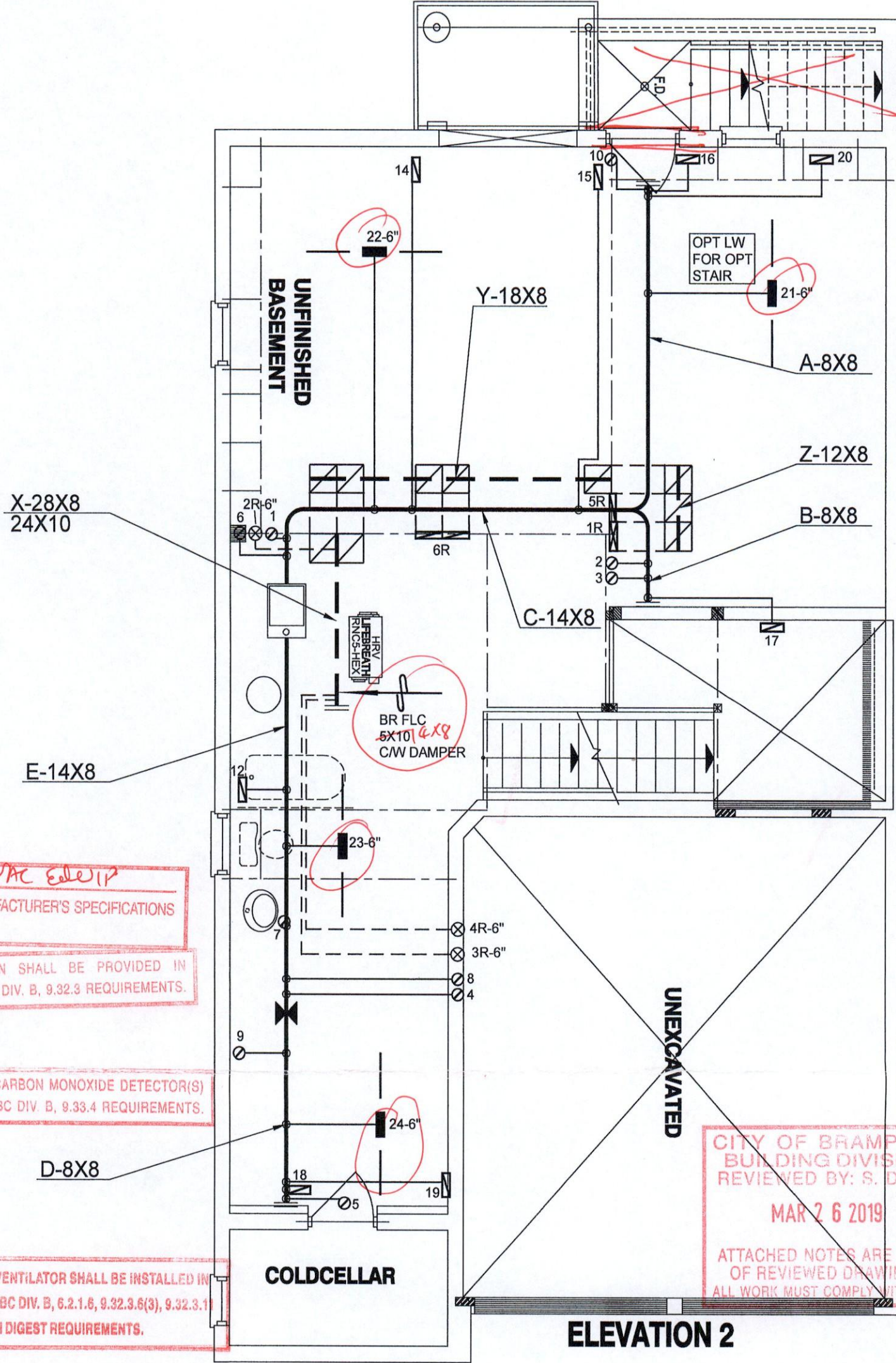
Level	Level Factor (LF)	HL _{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{level})
1	0.5	14,162	8,338	0.849
2	0.3		10,154	0.418
3	0.2		10,600	0.267
4	0		0	0.000
5	0		0	0.000

*HL_{airbv} = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HL_{airve} = 0

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
MAR 26 2019
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OPTIONAL
STAIR



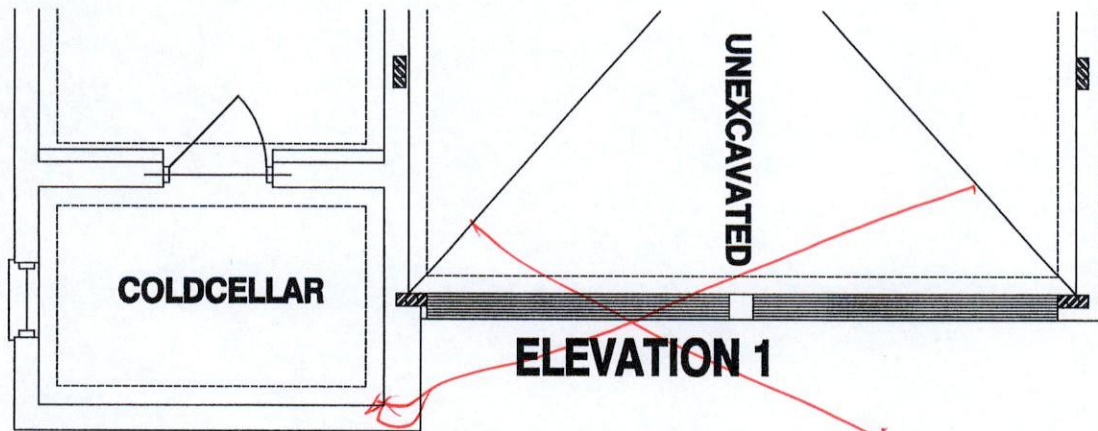
INSTALLATION OF HVAC EQUIP
SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS
AND MANUALS

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, 9.32.4 REQUIREMENTS.

A HEAT RECOVERY VENTILATOR SHALL BE INSTALLED IN
COMPLIANCE WITH OBC DIV. B, 6.2.1.6, 9.32.3.6(3), 9.32.3.1
AND HRAI DIGEST REQUIREMENTS.

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

CSA-F280-12
PACKAGE A1

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

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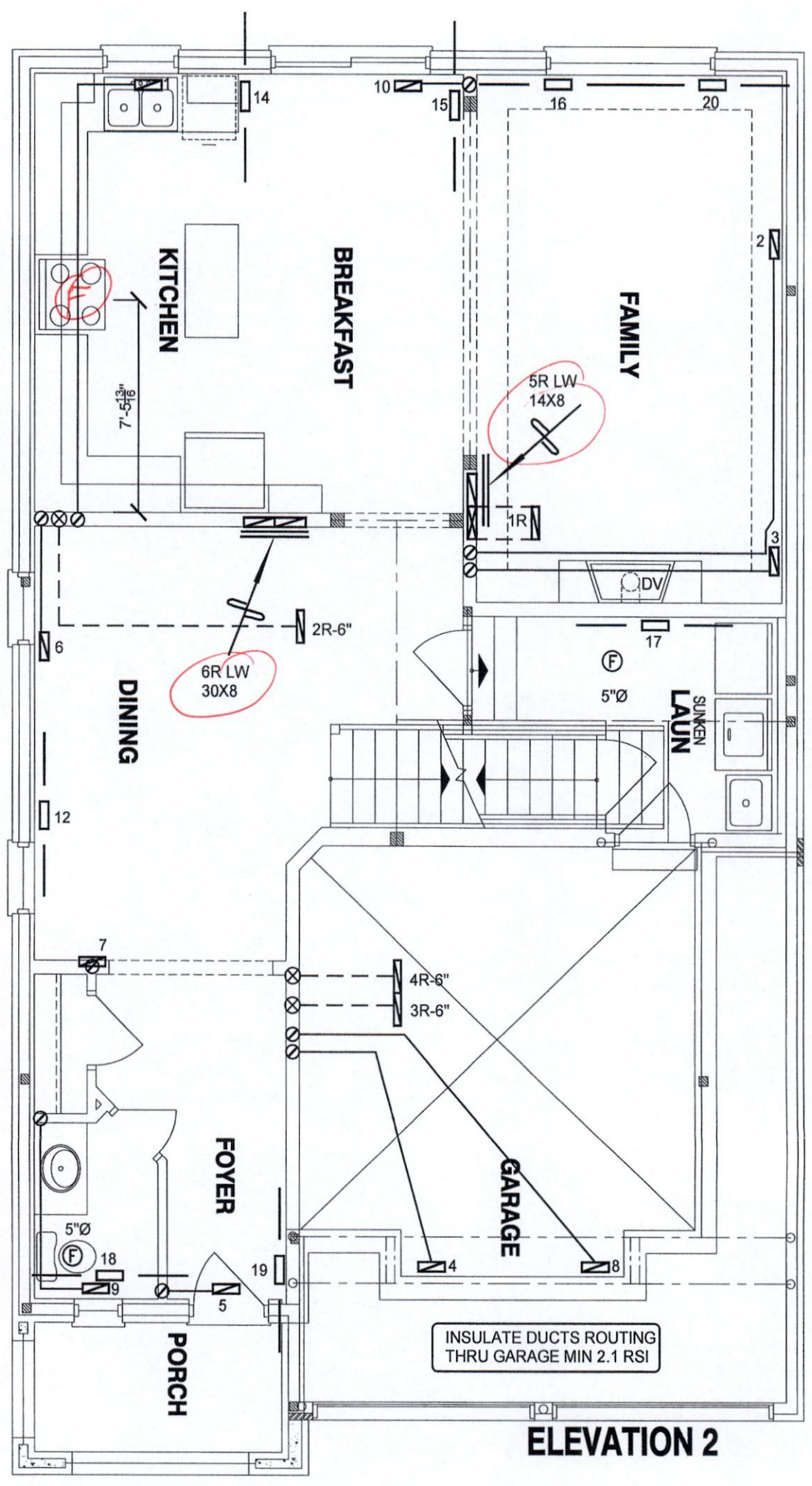
Client GREENYORK HOMES		<div>HVACDESIGNS LTD.</div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div> <div>Installation to comply with 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 45463 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			MAKE CARRIER	3RD FLOOR					Date JUNE/2018	
M-2057 LOT 19			MODEL 59SP5A-60-12-60	2ND FLOOR		10	4	2	Scale 3/16" = 1'-0"	
			INPUT 60 MBTU/H	1ST FLOOR		8	2	3	BCIN# 19669	
			BASEMENT		4	1	0	LO# 79001		
LIANA 3 2292 sqft			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.								

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

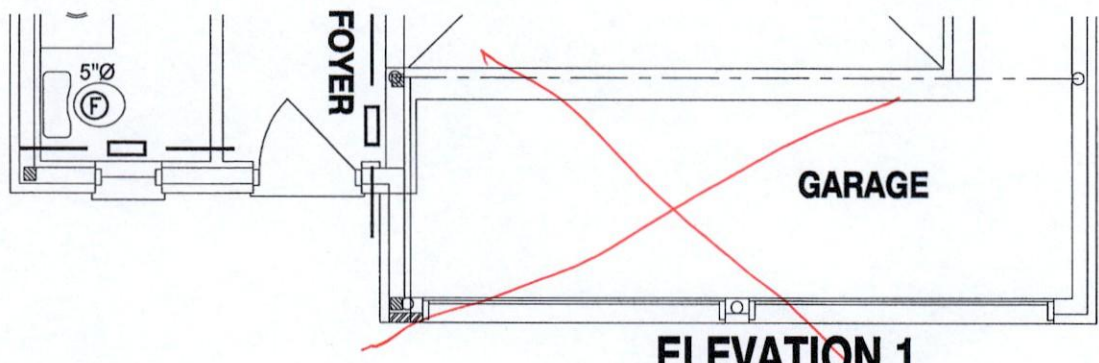
THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-785-1314

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

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 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 SIA REGISTER AS REQUIRED IN ORDER TO ENSURE MIN 72degF - OBC DIV B 9.33.3.1(1). - 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 RIA DUCT AT A HORIZONTAL DISTANCE OF MIN 6FT FROM THE CASING OF THE UNIT (HRAI DIGEST).



ELEVATION 2



ELEVATION 1

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
MAR 26 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

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.

CSA-F280-12
PACKAGE A1

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

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Client

GREENYORK HOMES

Project Name

GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057 LOT 19

LIANA 3

2292 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.

Sheet Title

FIRST FLOOR
HEATING
LAYOUT

Date

JUNE/2018

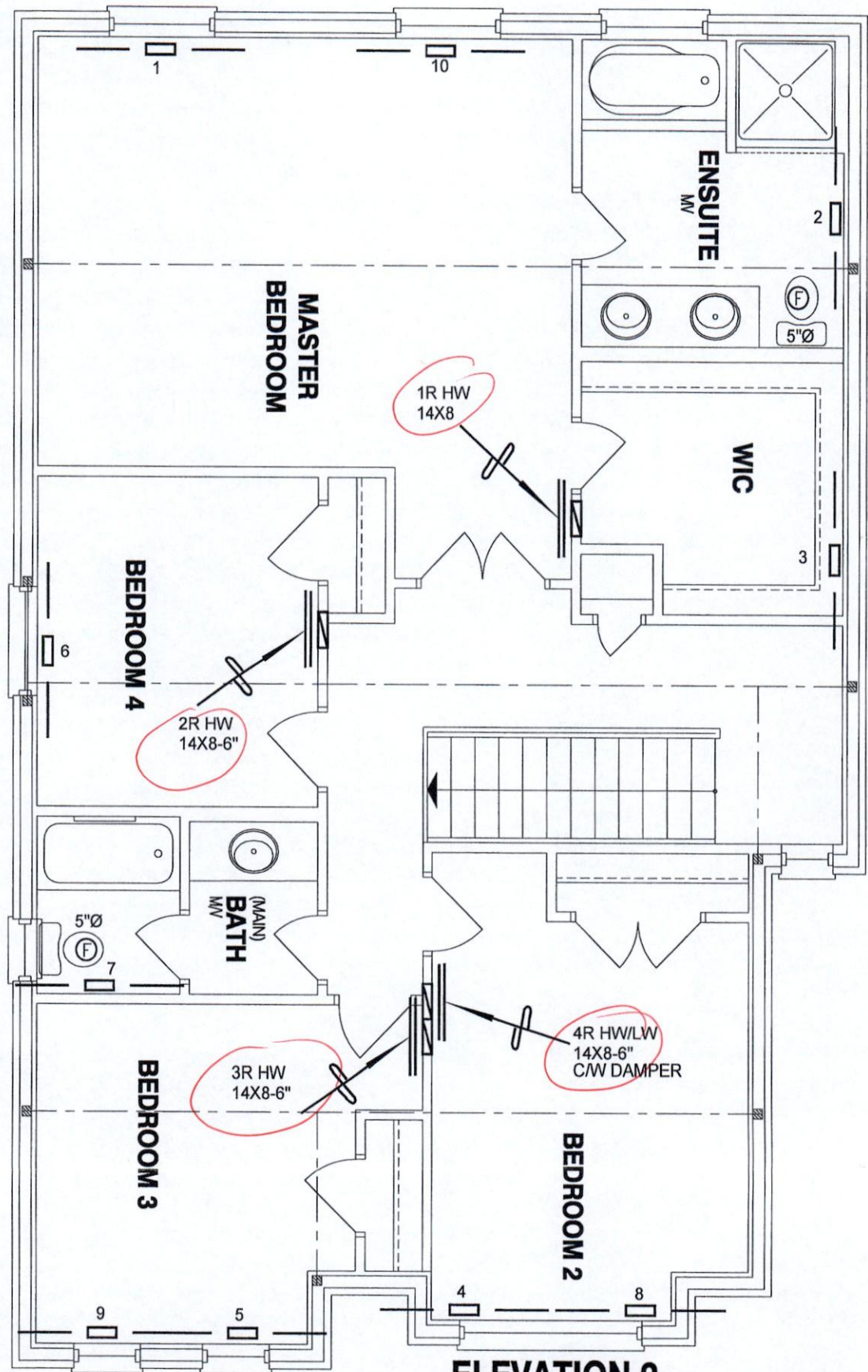
Scale

3/16" = 1'-0"

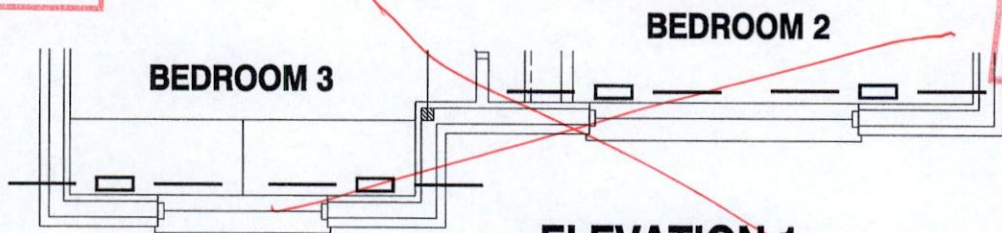
BCIN# 19669

LO#

79001



ELEVATION 2



ELEVATION 1

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI

MAR 2 6 2019

ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
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THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S)
SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI

MAR 2 6 2019

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

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 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	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		<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>	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			Date JUNE/2018	
M-2057 LOT 19 LIANA 3 2292 sqft			Scale 3/16" = 1'-0"	
		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.	BCIN# 19669	
			LO#	79001

Schedule 1: Designer Information

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

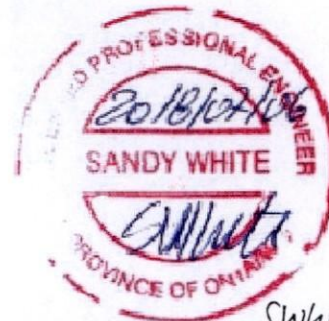
A. Project Information			
Building number, street name 6 PENLEA GATE		Unit no.	Lot/con. 19
Municipality BRAMPTON	Postal code	Lan number/ other description 43M-2057	
B. Individual who reviews and takes responsibility for design activities			
Name SANDY WHITE, P.Eng.		Firm ANDA ENGINEERING LTD.	
Street 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			
LIANA 3 - ELEVATION 2		GRANELLI HOMES CORP.	
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> Date		<u>SANDY WHITE</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.

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: LIANA 3 (LO#79001-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.

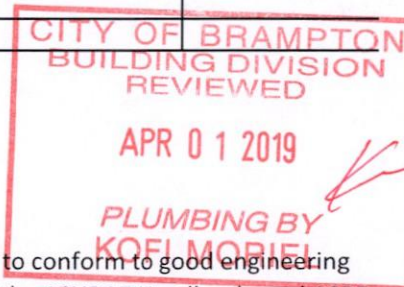
Description	Basement Floor	First Floor	Second Floor	Third Floor
	Qty.	Qty.	Qty.	Qty.
Bathroom group ⁽⁶⁾	1	2	2	
Bidet				
Extra Shower			1	
Lav			1	
Bar Sink				
Powder room ⁽⁷⁾		1		
Kitchen Sink		1		
Dishwasher		1		
Laundry Tub		1		
Washing Machine		1		
Hose Bib		2		

Total Fixture Units

33.6 26.4 F.U.

Minimum Diametre of Water Service Pipe
 Required from the Property Line to the
 House (Inch)

1 1/4 1" φ



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 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.

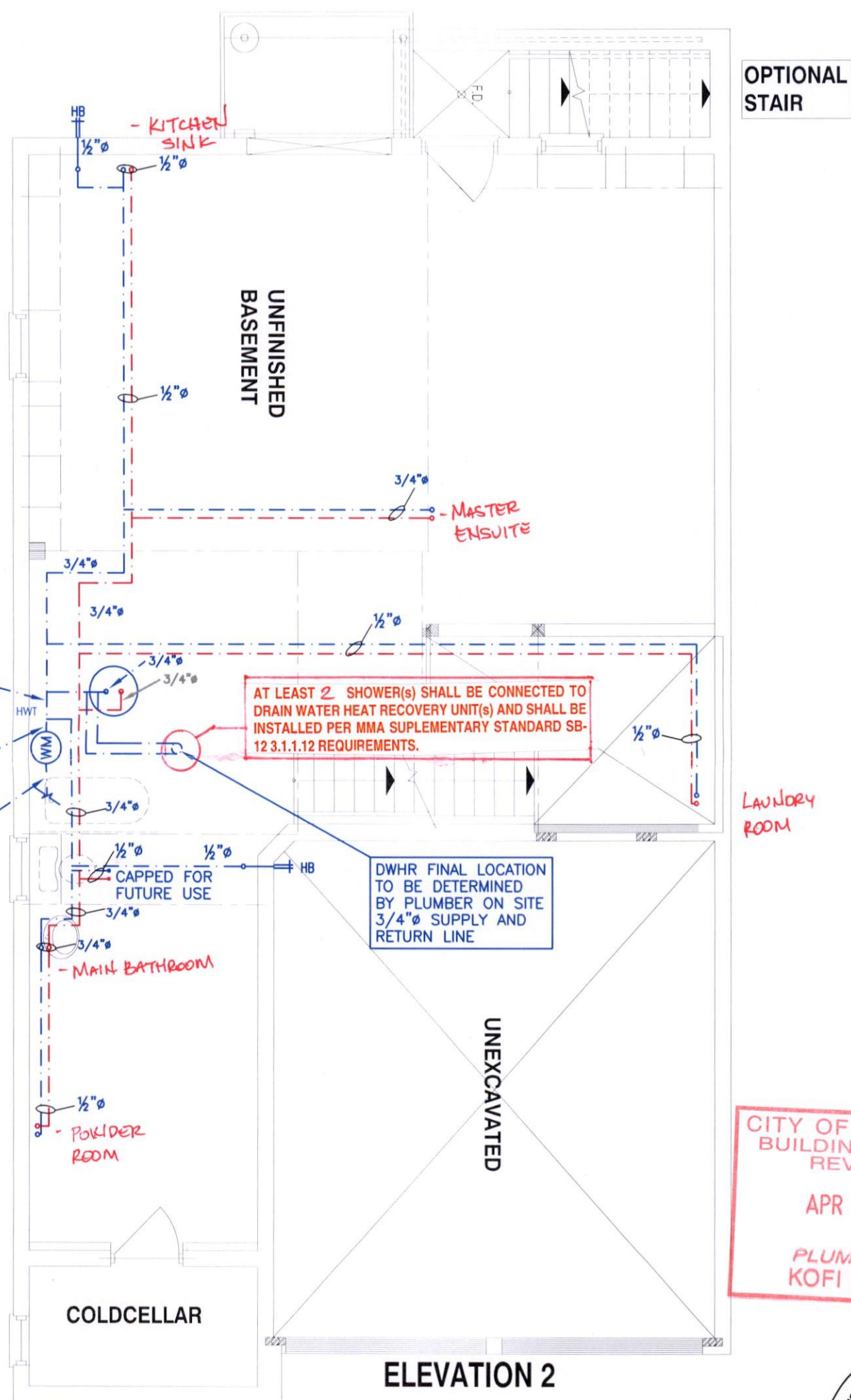
PLEASE SEE THE
 NOTES AS THEY
 OF THE REVIEWED

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



ATTACHED
FORM PART
DRAWINGS

1 1/4" Ø WATER MAIN
SEE PLANS FOR
FINAL LOCATION

AT LEAST 2 SHOWER(S) SHALL BE CONNECTED TO DRAIN WATER HEAT RECOVERY UNIT(S) AND SHALL BE INSTALLED PER MMA SUPPLEMENTARY STANDARD SB-12.3.1.1.12 REQUIREMENTS.

DWHR FINAL LOCATION
TO BE DETERMINED
BY PLUMBER ON SITE
3/4"Ø SUPPLY AND
RETURN LINE

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



ELEVATION 2

**ALL PLUMBING SHALL CONFORM TO
THE ONTARIO BUILDING CODE, O.REG.
332/12, AS AMENDED, DIVISION B, PART 7.**

Lot 19

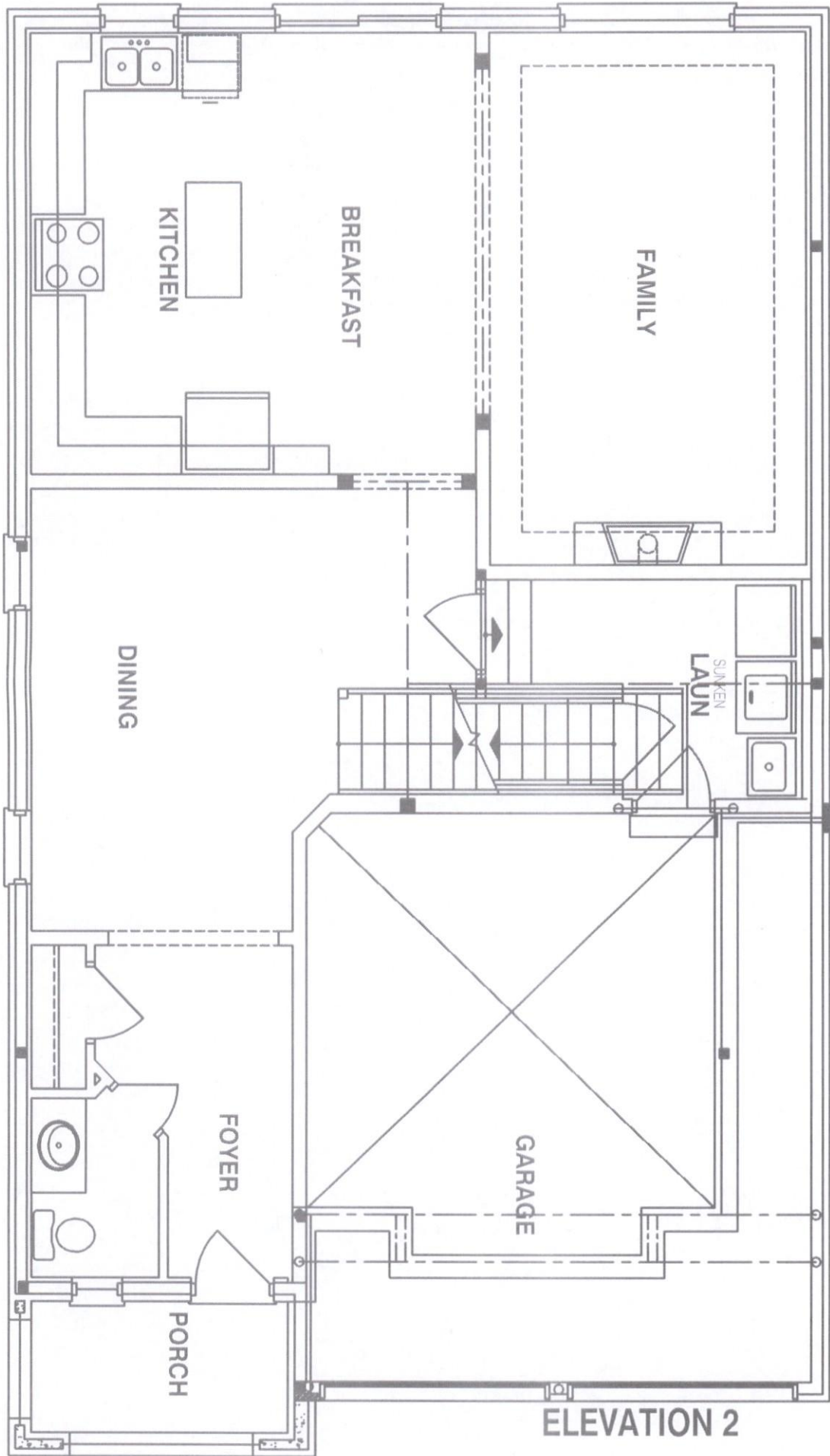
Client	 <p>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</p>	Sheet Title	BASEMENT PLUMBING LAYOUT	
Project Name		Date	JULY 2018	
GRANELLI HOMES CORP BRAMPTON, ONTARIO		Scale	3/16" = 1'-0"	
LIANA 3				
2292 sqft		LO#	79001-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

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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 LOT19

LIANA 3 2292 sqft

HVACDESIGNS 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

Sheet Title

FIRST FLOOR
PLUMBING
LAYOUT

Date

JULY 2018

Scale

3/16" = 1'-0"

LO#

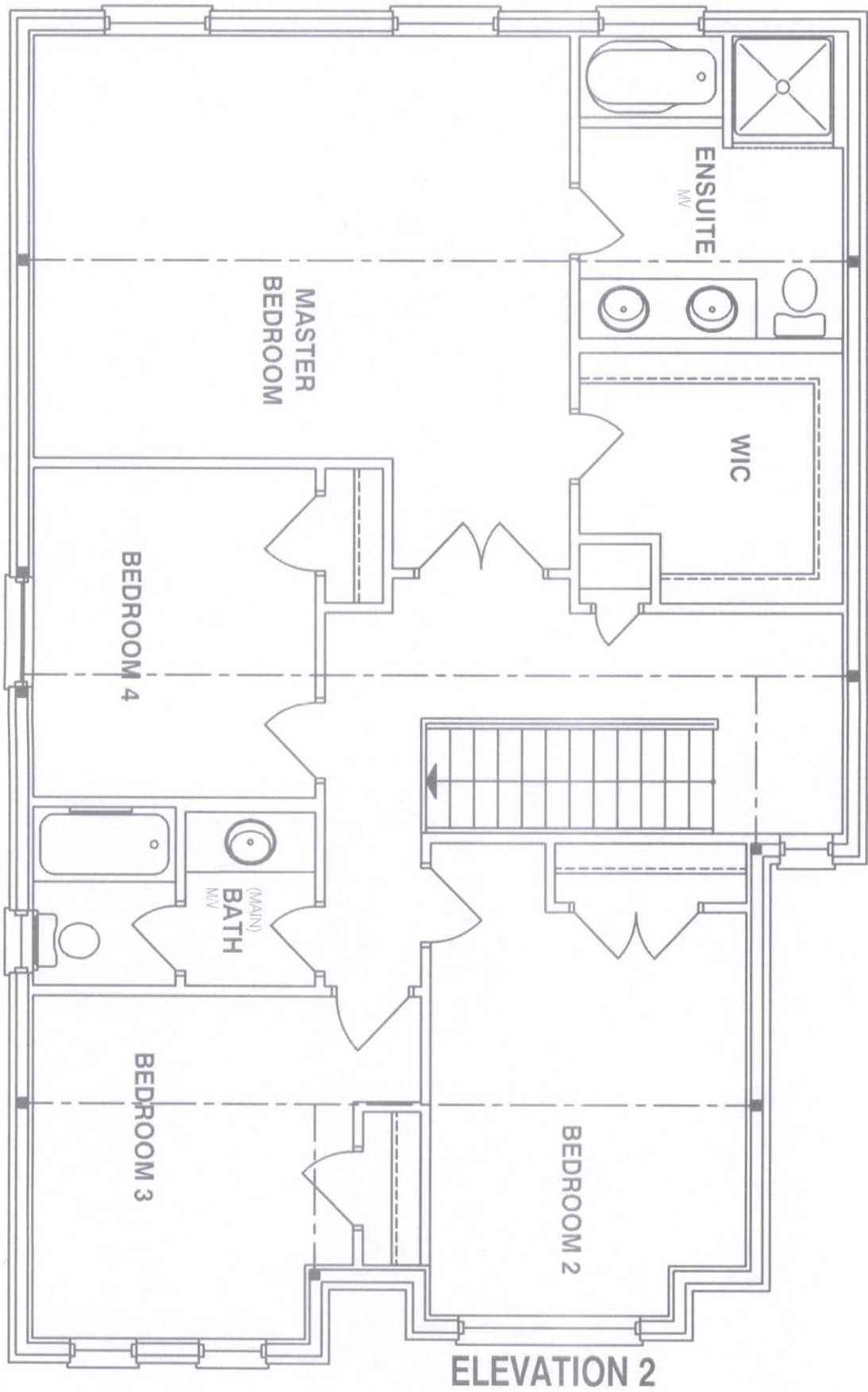
79001-P

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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 19

LIANA 3

2292 sqft



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Sheet Title
SECOND FLOOR
PLUMBING
LAYOUT

Date
JULY 2018

Scale
3/16" = 1'-0"

LO# 79001-P