

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 3-16, EL-2

A. Project Information

Building number, street name		Unit number	Lot/Con 16
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

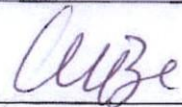
Climatic Zone (SB-1):		Heating Equipment Efficiency	Space Heating Fuel Source
☐ Zone 1 (< 5000 degree days)	☐ $\geq 92\%$ AFUE	☐ Gas	☐ Propane
☐ Zone 2 (≥ 5000 degree days)	☐ $\geq 84\% < 92\%$ AFUE	☐ Oil	☐ Electric
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics	
Area of walls = 306.8 m ² or _____ ft ²	W, S & G % = 9.23%	☐ Log/Post&Beam	
Area of W, S & G = 28.3 m ² or _____ ft ²	Utilize window averaging: ☐ Yes ☐ No	☐ ICF Above Grade	
		☐ ICF Basement	
		☐ 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 

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 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" 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).

19-447156 000 00 RR

OPTIONAL
STAIR

X-28X8
24X10

E-14X8

D-8X8

UNFINISHED
BASEMENT

Y-18X8

Z-12X8

B-8X8

C-14X8

BR FLC
5X10 14X8
CAW DAMPER

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.

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

UNEXCAVATED

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

COLDCELLAR

ELEVATION 2

COLDCELLAR

UNEXCAVATED

ELEVATION 1

CSA-F280-12
PACKAGE A1

HVAC LEGEND

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

3.	
2.	
1.	
No.	Description
	Date

REVISIONS

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Client
GREENYORK HOMES
Project Name
**GRANELLI HOMES CORP
BRAMPTON, ONTARIO**
M-2057
LOT 16
LIANA 3
2292 sqft

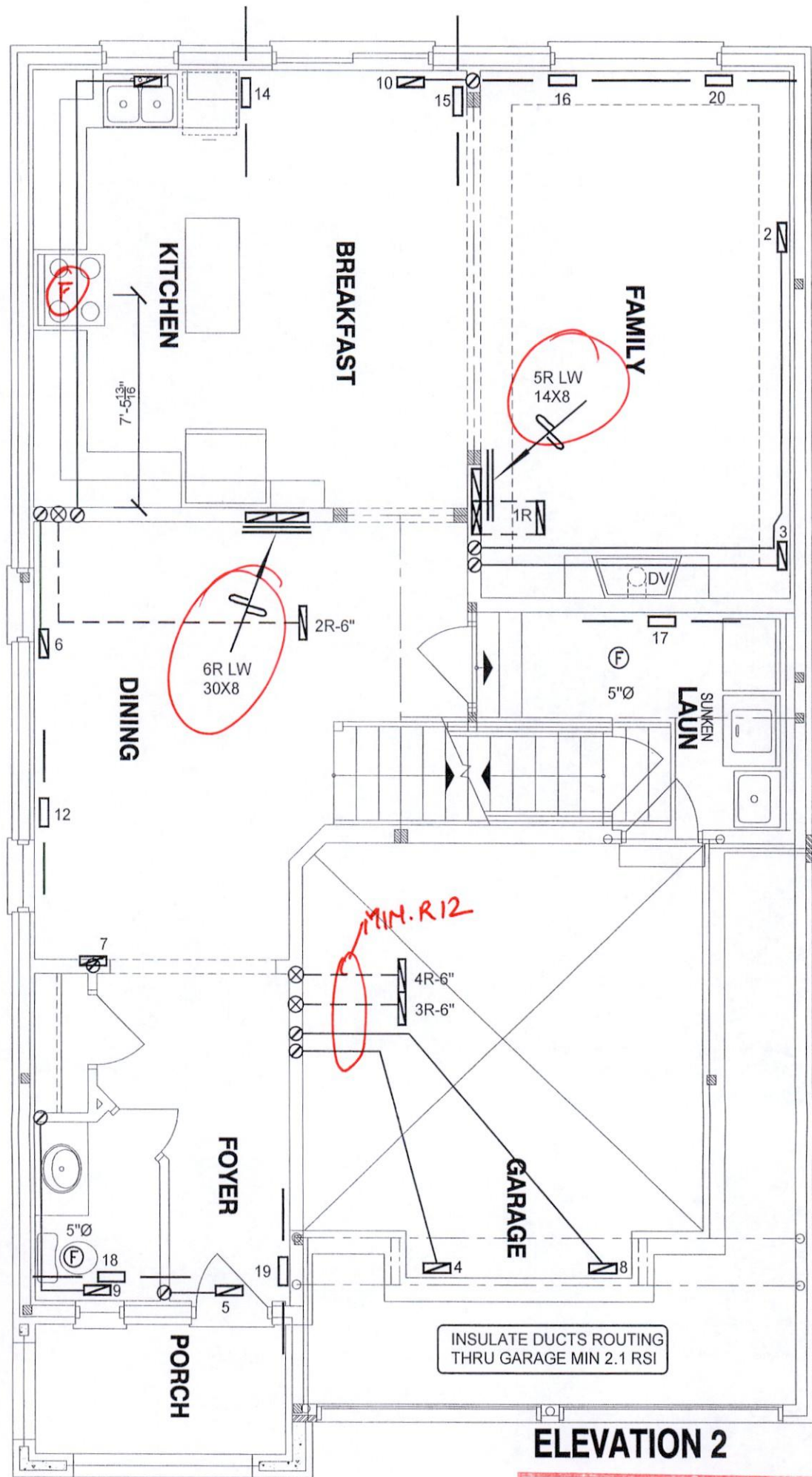
HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

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.

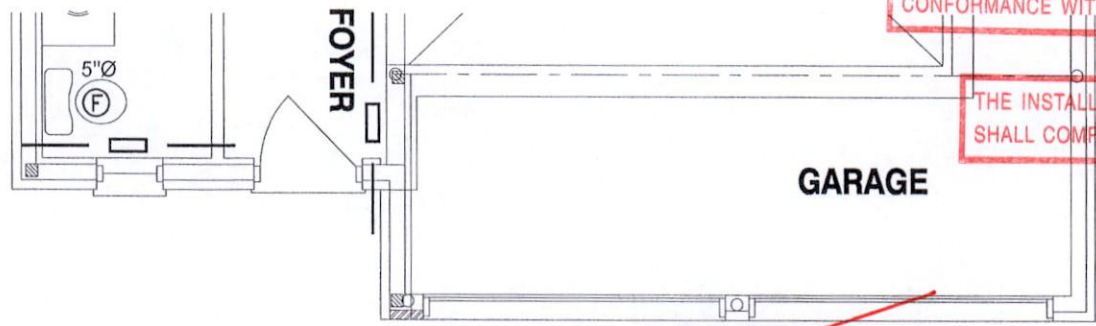
HEAT LOSS 45463 BTU/H UNIT DATA		# OF RUNS	S/A	R/A	FANS
MAKE	CARRIER	3RD FLOOR			
MODEL	59SP5A-60-12-60	2ND FLOOR	10	4	2
INPUT	60 MBTU/H	1ST FLOOR	8	2	3
OUTPUT	58 MBTU/H	BASEMENT	4	1	0
COOLING	2.5 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			
FAN SPEED	970 cfm @ 0.6" w.c.				

Sheet Title	
BASEMENT HEATING LAYOUT	
Date	JUNE/2018
Scale	3/16" = 1'-0"
BCIN#	19669
LO#	79001

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



ELEVATION 2



ELEVATION 1

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.

INSULATE DUCTS ROUTING
THRU GARAGE MIN 2.1 RSI

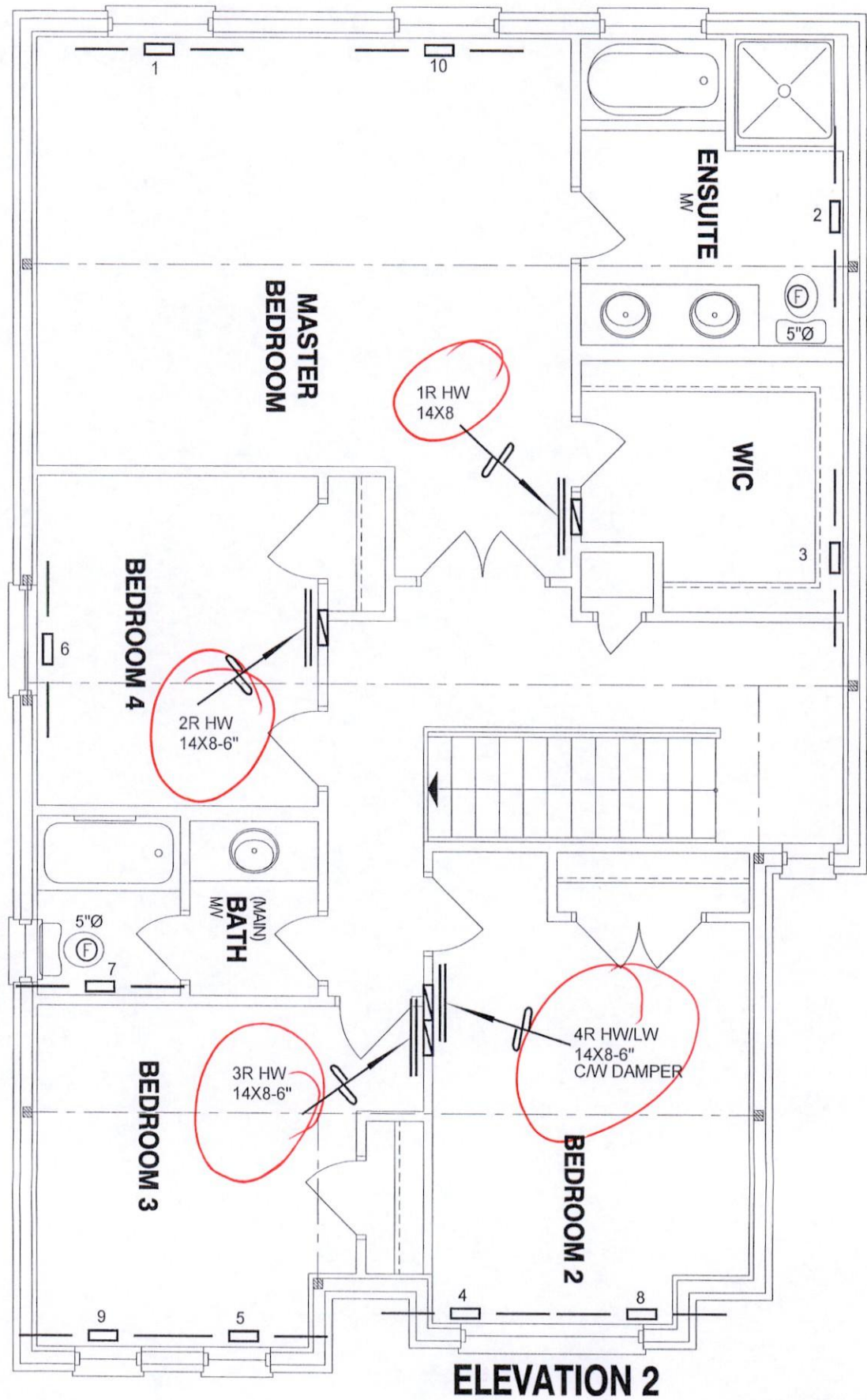
CSA-F280-12
PACKAGE A1

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, T1C19 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.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	
							REVISIONS	
							No.	Date

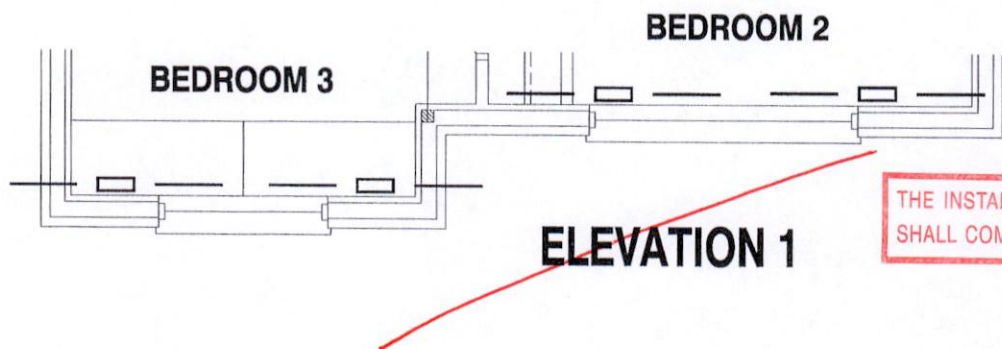
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Client GREENYORK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO M-2057 LOT 16 LIANA 3 2292 sqft			Date JUNE/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 79001	
		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.		



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 12 2019 *SD*
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.



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

I MICHAEL O'ROURKE HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.
Michael O'Rourke
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	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO M-2057 LOT 16	LIANA 3 2292 sqft		Date JUNE/2018	Scale 3/16" = 1'-0"
		BCIN# 19669		LO# 79001

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 ΔT °F. 74
HEAT GAIN ΔT °F. 14

CSA-F280-12
SB-12 PACKAGE A3

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH																	
EXP. WALL			36			21			15			33			28			12			7																	
CLG. HT.			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	0	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	44	914	1843	27	561	1131	0	0	0	0	0	0	0	0	0	0	0	0						
SOUTH			20.8	25.2	0	0	0	0	0	0	0	0	0	0	0	0	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	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	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	0	0	0	0	0	0	0	0	0						
NET EXPOSED WALL			4.4	0.8	296	1290	243	177	771	146	135	588	111	253	1102	208	225	980	185	92	401	76	55	240	45													
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	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	150	188	91	240	301	146	105	132	64													
NO ATTIC EXPOSED CLG			2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	20	54	26	0	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	228	568	107	40	100	19	0	0	0	28	70	13													
BASEMENT/CRAWL HEAT LOSS					0			0		0			0			0			0			0																
SLAB ON GRADE HEAT LOSS					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		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			364			239			0			77																
DUCT GAIN					0			0		0			329			237			0			35																
HEAT GAIN PEOPLE			240		2	480	0	0	0	0	1	240	1	240	1	240	1	240	0			0																
HEAT GAIN APPLIANCES/LIGHTS						552		0		0			552			552			552			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			DIN			KIT			FAM			LAUN			W/R			FOY			WUP			BAS		
EXP. WALL			16			33			32			27			19			23			20			148		
CLG. HT.			11			11			11			12			11			11			9			9		
FACTORS																										
GRS.WALL AREA	LOSS	GAIN			176			363			352			324			209			253			180			888
GLAZING			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
EAST	20.8	41.9	0	0	0			0	0	0			0	0	0			9	187	377			3	62	126	0
SOUTH	20.8	25.2	28	582	707			0	0	0			0	0	0			0	0	0			0	0	0	0
WEST	20.8	41.9	0	0	0			61	1060	2136			33	686	1382			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
DOORS	24.7	4.7	0	0	0			0	0	0			20	493	93			0	0	0			20	493	93	0
NET EXPOSED WALL	4.4	0.8	148	645	122			312	1359	256			304	1325	250			200	871	164			230	1002	189	0
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
EXPOSED CLG	1.3	0.6	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			0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0			0	0	0			0	0	0			0	0	0			0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0					0					0					0					0			0
SLAB ON GRADE HEAT LOSS			0					0					0					0					0			0
SUBTOTAL HT LOSS			1227					2419					2075					1818					1557			408
SUB TOTAL HT GAIN				828				2393					1645					343					541			0
LEVEL FACTOR / MULTIPLIER	0.30	0.42					0.30	0.42				0.30	0.42				0.30	0.42				0.30	0.42		0	
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
DUCT GAIN				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
HEAT GAIN APPLIANCES/LIGHTS				552				552					552					552					0			0
TOTAL HT LOSS BTU/H			1740					3431					2944					2578					1501			2209
TOTAL HT GAIN x 1.3 BTU/H				1887				4096					3040					1202					764			576

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI

APR 12 2019

ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
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CITY OF BRAMPTON
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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

M-2057 LOT 16

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

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

#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 @ .5" 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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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
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Air Infiltration Residential Load Calculator

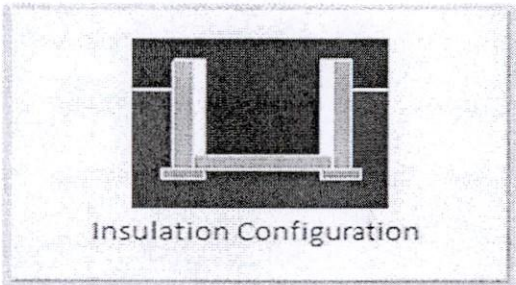
Supplemental tool for CAN/CSA-F280

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

TYPE: LIANA 3

LO# 79001

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

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

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

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE*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) ☒ Direct vent (sealed combustion) only
b) ☐ Positive venting induced draft (except fireplaces)
c) ☐ Natural draft, B-vent or induced draft gas fireplace
d) ☐ Solid Fuel (including fireplaces)
e) ☐ No Combustion Appliances

HEATING SYSTEM
☒ Forced Air ☐ Non Forced Air
☐ Electric Space Heat

HOUSE TYPE 9.32.1(2)
☒ I Type a) or b) appliance only, no solid fuel
☐ II Type I except with solid fuel (including fireplaces)
☐ III Any Type c) appliance
☐ IV Type I, or II with electric space heat
☐ Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS O.N.H.W.P.
☐ 1 Exhaust only/Forced Air System
☐ 2 HRV with Ducting/Forced Air System
☒ 3 HRV Simplified/connected to forced air system
☐ 4 HRV with Ducting/non forced air system
☐ Part 6 Design

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	3	@ 10.6 cfm	31.8	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	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 ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	74 F	1.08	0.24

SUPPLEMENTAL FANS NUTONE

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

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

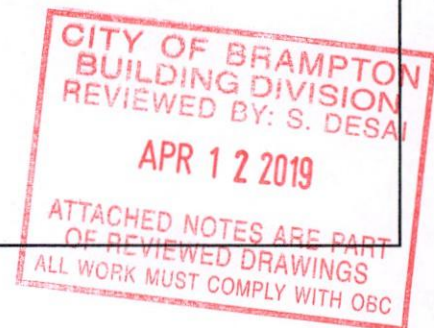
LOCATION OF INSTALLATION
Lot: Concession
Township: Plan:
Address:
Roll # Building Permit #
BUILDER: GREENYORK HOMES
Name:
Address:
City:
Telephone #: Fax #

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: *Michael O'Rourke*
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


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 <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>1022</td><td>9</td><td>9198</td></tr> <tr><td>First</td><td>1022</td><td>11</td><td>11242</td></tr> <tr><td>Second</td><td>1270</td><td>9</td><td>11430</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="2" style="text-align: right;">Total:</td><td></td><td>31,870.0 ft³</td></tr> <tr><td colspan="2" style="text-align: right;">Total:</td><td></td><td>902.5 m³</td></tr> </tbody> </table>		Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1022	9	9198	First	1022	11	11242	Second	1270	9	11430	Third	0	9	0	Fourth	0	9	0	Total:			31,870.0 ft³	Total:			902.5 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.335</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.119</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>22</td> <td>30</td> <td>8</td> <td>14</td> </tr> </table>			WINTER NATURAL AIR CHANGE RATE	0.335	SUMMER NATURAL AIR CHANGE RATE	0.119	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	22	30	8	14
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Bsmt	1022	9	9198																																																									
First	1022	11	11242																																																									
Second	1270	9	11430																																																									
Third	0	9	0																																																									
Fourth	0	9	0																																																									
Total:			31,870.0 ft³																																																									
Total:			902.5 m³																																																									
WINTER NATURAL AIR CHANGE RATE	0.335																																																											
SUMMER NATURAL AIR CHANGE RATE	0.119																																																											
Design Temperature Difference																																																												
	Tin °C	Tout °C	ΔT °C	ΔT °F																																																								
Winter DTDh	22	-19	41	74																																																								
Summer DTDc	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)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{clevel})																																																								
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																																																								
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												

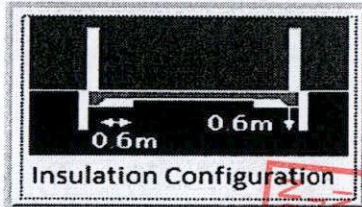


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MAR 29 2019
Building Division

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

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):	2.4	
Width (m):	1.2	
Exposed Perimeter (m):	6.1	
Radiant Slab		
Heated Fraction of the Slab:	0	CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: S. DESAI APR 12 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):	38	

TYPE: LIANA 3
LO# 79001

LOT 16

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 12 PENLEA GATE		Unit no.	Lot/con. 16
Municipality BRAMPTON	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]			
☐ House	☐ HVAC – House	☐ Building Structural	
☐ Small Buildings	☐ Building Services	☒ Plumbing – House	
☐ Large Buildings	☐ Detection, Lighting and power	☐ Plumbing – II Buildings	
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems	
Description of designer's work LIANA 3 EL. 2 WALK-UP CONDITION			
GRANELLI HOMES CORP.			
D. Declaration of Designer			
I <u>SANDY WHITE,</u> declare that (choose one as appropriate): (print name)			
☐ 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: _____			
☐ 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: _____			
☒ 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		SANDY WHITE 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.



BRAMPTON
Flower City

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

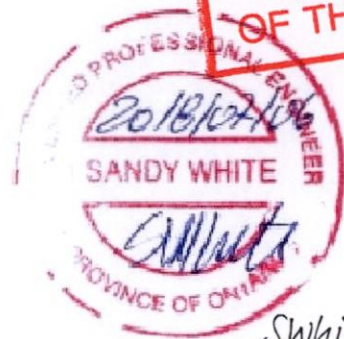
PLEASE SEE
NOTES AS
OF THE RE

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

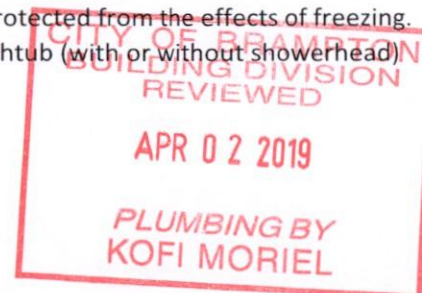
~~33.6~~ 23.7 F.U.

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

~~1 1/4~~ 1" Ø

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.

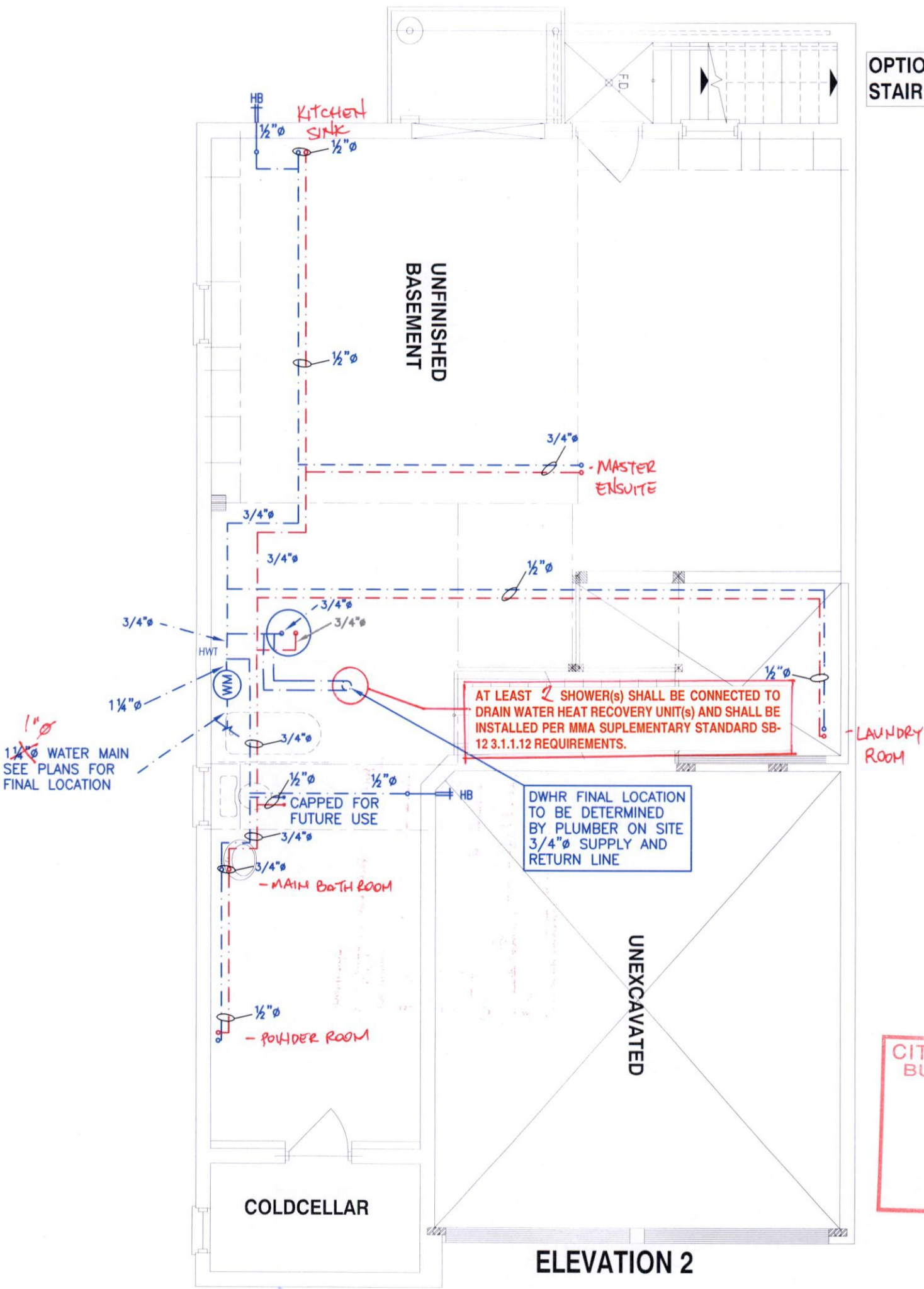


NOTES

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



OPTIONAL
STAIR

BE THE ATTACHED
THEY FORM PART
OF THE DRAWINGS

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 02 2019
PLUMBING BY
KOFI MORIEL



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

Lot 16

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

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
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Sheet Title
BASEMENT
PLUMBING
LAYOUT

Date
JULY 2018

Scale
3/16" = 1'-0"

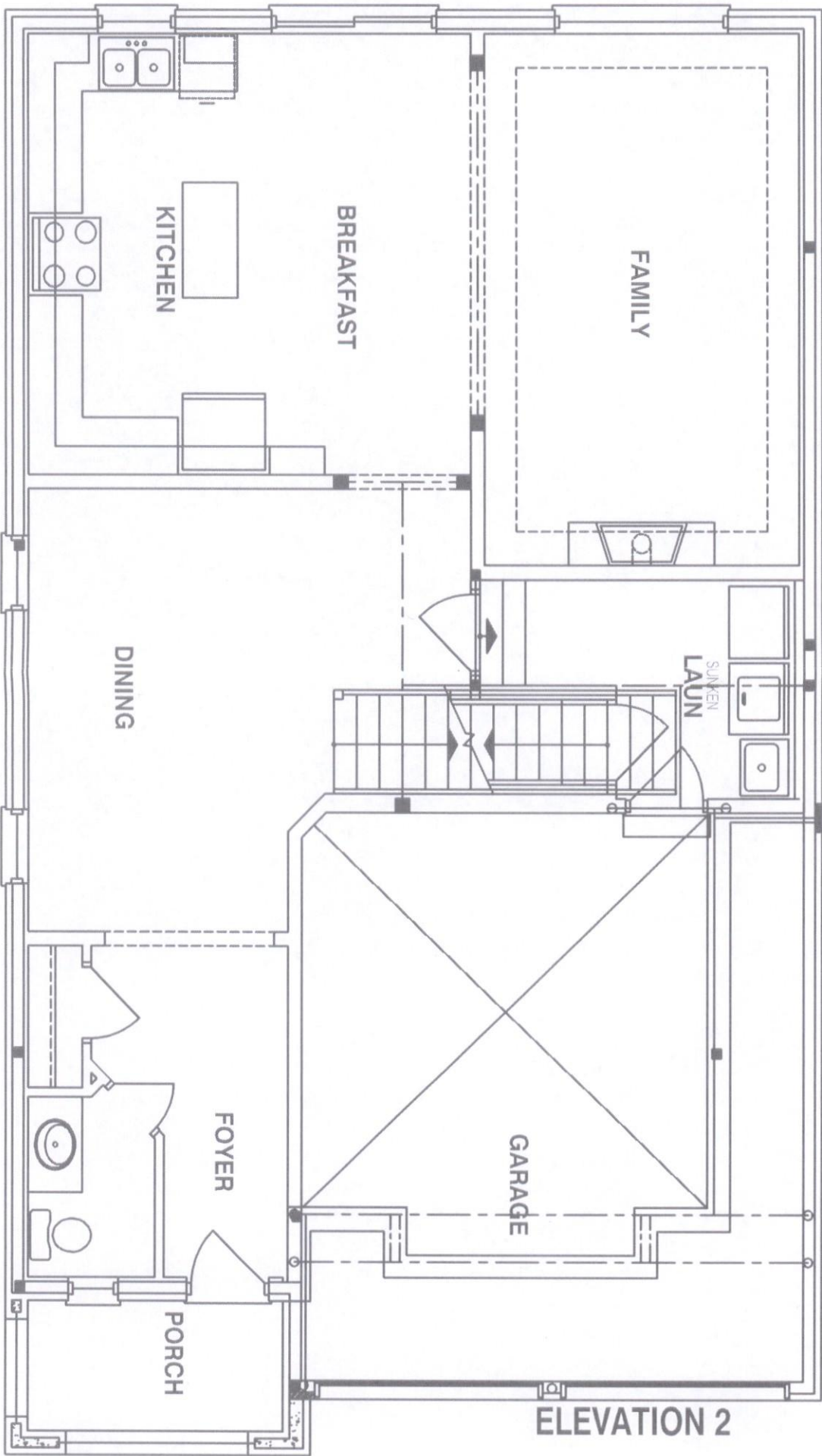
LO# 79001-P

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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 02 2019

PLUMBING BY
KOFI MORIEL



Client

GREENYORK HOMES

Project Name

GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057 LOT 16

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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Sheet Title

FIRST FLOOR
PLUMBING
LAYOUT

Date

JULY 2018

Scale

3/16" = 1'-0"

LO#

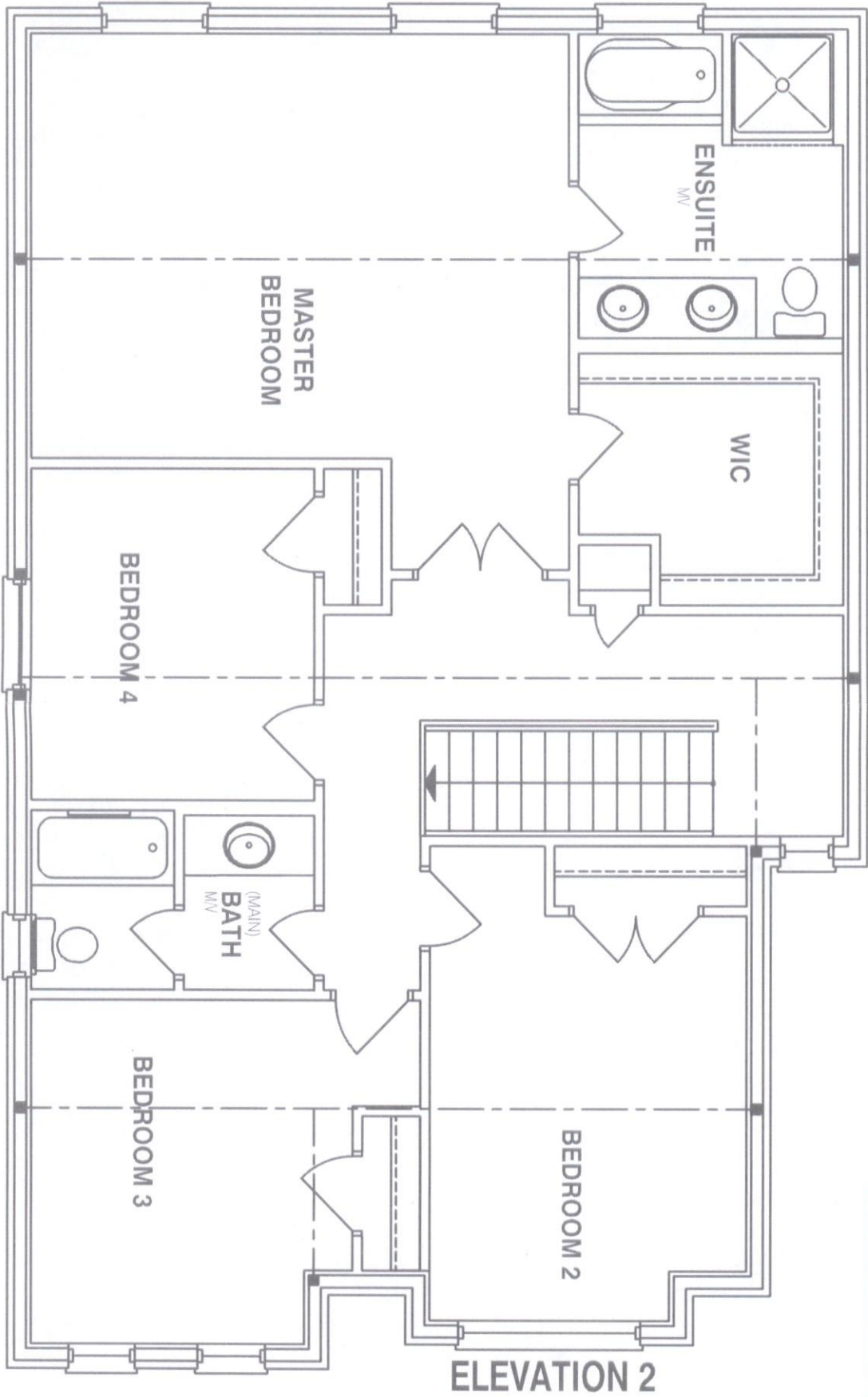
79001-P

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LEGEND

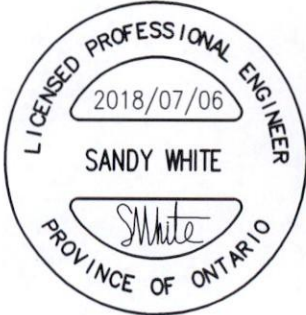
SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
	WATER METER, PROVIDE SUPPLY PIPE SIZE/ Ø
	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
	FLOOR DRAIN



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED

APR 02 2019

PLUMBING BY
KOFI MORIEL



Client

GREENYORK HOMES

Project Name

GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057 LOT 16

LIANA 3

2292 sqft

HVACDESIGNS LTD.

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Sheet Title

SECOND FLOOR
PLUMBING
LAYOUT

Date

JULY 2018

Scale

3/16" = 1'-0"

LO#

79001-P