

19-447194 000 00

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 BELLE 1-26, EL-2

A. Project Information

Building number, street name		Unit number	Lot/Con 26
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

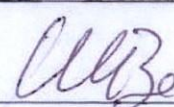
Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
☐ Zone 1 (< 5000 degree days)	☐ ≥ 92% AFUE	☐ Gas ☐ Propane ☐ Solid Fuel
☐ Zone 2 (≥ 5000 degree days)	☐ ≥ 84% < 92% AFUE	☐ Oil ☐ Electric ☐ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = <u>382.8</u> m ² or _____ ft ²	W, S & G % = <u>9.86%</u>	☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement
Area of W, S & G = <u>37.7</u> 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 <u>2</u>
Slab (all ≤600mm below grade, or heated)	1.76	1.96	Combined Heating System	N/A

(1) U value to be provided in either W/(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 

INSTALLATION OF KITCHEN EXHAUST DUCT LARGER THAN 6" dia SHALL BE PRECEDED BY APPLICATION FOR REVISION OF DESIGN PER OBC PART 6 REQUIREMENTS. EXHAUST FAN SHALL DISCHARGE DIRECTLY TO OUTSIDE. CLOTHES DRYER EXHAUST SYSTEM SHALL COMPLY WITH OBC DIV B 9.32.1.2, 9.32.1.3 & 9.32.3 REQ'S. BALANCE THE RETURN AIRFLOW ON THE UPPER FLOOR TO MATCH THE SUPPLY. WHEN HRV IS USED AS PRINCIPAL EXHAUST FAN, THE CONTROLLER SHALL BE WIRED TO THE HRV UNIT AND INTERCONNECTED TO THE FURNACE FAN. THE FURNACE BLOWER MUST BE IN OPERATION WHEN THE HRV IS IN OPERATION. INSTALL ADDITIONAL S/A REGISTER AS REQUIRED IN ORDER TO ENSURE MIN 72degF - OBC DIV B 9.33.3.1(1). THE DOOR TO ANY ROOM WITHOUT RETURN AIR GRILLE. UNDERCUT BY MIN 1" THE SHALL BE CONNECTED TO THE MAIN R/A DUCT AT A HORIZONTAL DISTANCE OF MIN 6FT FROM THE CASING OF THE UNIT (HRAI DIGEST).

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.

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 15 2019
ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

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

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

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

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

Client
GREENYORK HOMES
Project Name
**GRANELLI HOMES CORP
BRAMPTON, ONTARIO**
M-2057 LOT 26
BELLE 1 **2658 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
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.

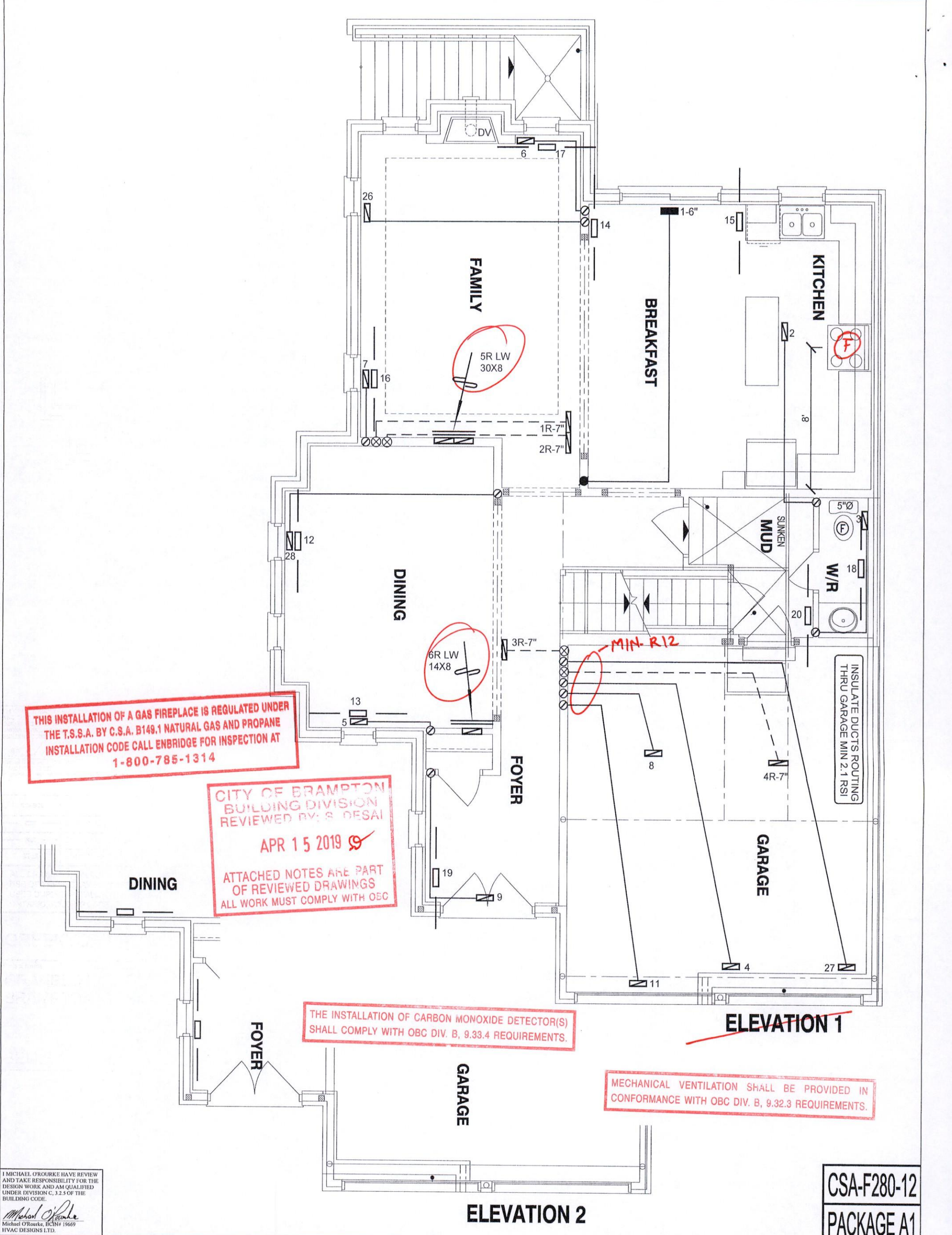
HEAT LOSS 53178 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			
MAKE	CARRIER	3RD FLOOR			
MODEL	59SP5A-60-12-60	2ND FLOOR	13	4	4
INPUT	60 MBTU/H	1ST FLOOR	9	2	2
OUTPUT	58 MBTU/H	BASEMENT	4	1	0
COOLING	3.0 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE 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# **78992**

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

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Client GREENYORK HOMES		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		HEAT LOSS 53178 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title BASEMENT HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO		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.		MAKE CARRIER		3RD FLOOR		Date JUNE/2018	
M-2057 LOT 26				MODEL 59SP5A-60-12-60		2ND FLOOR		Scale 3/16" = 1'-0"	
BELLE 1				INPUT 60 MBTU/H		1ST FLOOR		BCIN# 19669	
2658 sqft				OUTPUT 58 MBTU/H		BASEMENT		LO# 78992	
				COOLING 3.0 TONS					
				FAN SPEED 970 cfm @ 0.6" w.c.					



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.

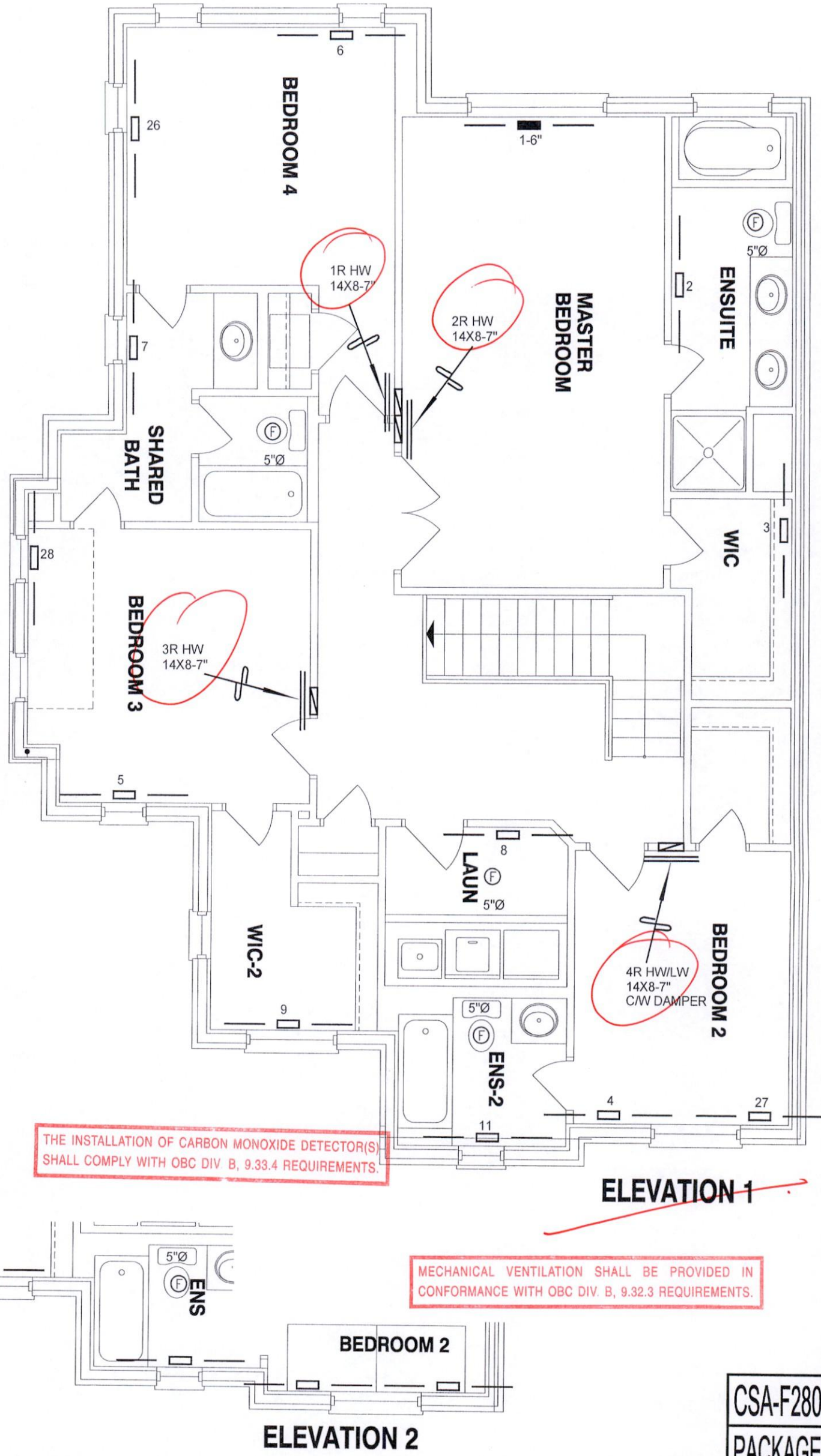
HVAC LEGEND								3.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.		
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA-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

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Client		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	
GREENYORK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	
GRANELLI HOMES CORP BRAMPTON, ONTARIO			JUNE/2018	
M-2057 LOT 26			Scale	
BELLE 1			3/16" = 1'-0"	
2658 sqft			BCIN# 19669	
			LO#	78992

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 15 2019

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OF REVIEWED DRAWINGS
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ELEVATION 1

ELEVATION 2

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

No.	Description	Date
3.		
2.		
1.		
No.	Description	Date

REVISIONS

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Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057 LOT 26

BELLE 1 2658 sqft

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Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
SECOND FLOOR
HEATING
LAYOUT

Date JUNE/2018

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 78992

SITE NAME: GRANELLI HOME CORP

BUILDER: GREENYORK HOMES

TYPE: BELLE 1

GFA: 2662

DATE: Jun-18

LO# 78992

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.	FACTORS	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN	WIC-2	ENS-2
				13	24	7	31	22	31	15	0	19	15
				9	9	9	9	9	9	9	9	9	9
GRS.WALL AREA	LOSS	GAIN		117	216	63	279	198	279	135	0	171	135
GLAZING	LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	20.8	15.4	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	39.0	30	623	1171	0	0	0	0	0	0	0	0
SOUTH	20.8	23.6	0	0	0	0	0	0	0	0	0	20	416
WEST	20.8	39.0	0	0	0	14	291	547	0	0	0	10	208
SKYLT.	36.4	102.1	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
NET EXPOSED WALL	4.4	0.8	87	379	72	202	880	166	63	274	52	253	1102
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	338	423	205	112	140	68	42	53	26	220	276
NO ATTIC EXPOSED CLG	2.7	1.3	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
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			1426		1311	327	2466	1836	1919	940	487	1350	962
SUB TOTAL HT GAIN				1448	781	77	1460	1443	1324	430	140	1188	554
LEVEL FACTOR / MULTIPLIER	0.20	0.25		0.20	0.25	0.20	0.25	0.20	0.25	0.20	0.25	0.20	0.25
AIR CHANGE HEAT LOSS			355		327	81	614	457	478	234	121	336	240
AIR CHANGE HEAT GAIN				124	67	7	125	124	114	37	12	102	48
DUCT LOSS			0	0	0	0	308	0	0	0	61	0	120
DUCT GAIN			0	0	0	0	0	0	0	0	59	0	60
HEAT GAIN PEOPLE	240		2	480	0	0	1	240	1	240	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				439	0	0	439	439	439	0	0	439	0
TOTAL HT LOSS BTU/H			1781		1638	409	3388	2294	2396	1175	669	1687	1322
TOTAL HT GAIN x 1.3 BTU/H			3239		1102	109	3239	2919	2752	608	845	2248	860

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	DIN	KIT	FAM	W/R	FOY	MUD	WUP	BAS
				31	35	39	13	37	15	20	164
				11	11	11	11	11	13	9	9
GRS.WALL AREA	LOSS	GAIN		341	385	429	143	407	195	180	984
GLAZING	LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	20.8	15.4	0	0	0	0	0	0	0	0	0
EAST	20.8	39.0	13	270	508	0	0	0	0	0	0
SOUTH	20.8	23.6	34	706	804	0	0	0	0	0	0
WEST	20.8	39.0	0	0	0	32	665	757	0	0	0
SKYLT.	36.4	102.1	0	0	0	19	395	742	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	294	1281	242	326	1420	268	371	1616	305
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	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	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			2257		2801	2848	623	2897	1256	1190	8045
SUB TOTAL HT GAIN				1553	1196	2090	118	1014	237	225	698
LEVEL FACTOR / MULTIPLIER	0.30	0.38		0.30	0.38	0.30	0.38	0.30	0.38	0.30	0.38
AIR CHANGE HEAT LOSS			866		1075	1093	239	1111	482	0.50	0.88
AIR CHANGE HEAT GAIN				133	103	180	10	87	20	8109	79
DUCT LOSS			0	0	0	0	0	0	0	0	0
DUCT GAIN			0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				439	439	439	0	0	0	0	439
TOTAL HT LOSS BTU/H			3123		3876	3941	862	4008	1737	1190	16154
TOTAL HT GAIN x 1.3 BTU/H			2763		2259	3521	166	1431	905	292	1582

ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 15 2019

TOTAL HEAT GAIN BTU/H:

31129

TONS: 2.59

LOSS DUE TO VENTILATION LOAD BTU/H: 1529

STRUCTURAL HEAT LOSS: 51649

TOTAL COMBINED HEAT LOSS BTU/H: 53178

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMES

TYPE: BELLE 1

DATE: Jun-18

GFA: 2662 LO# 78992

HEATING CFM 970 COOLING CFM 970
TOTAL HEAT LOSS 51,649 TOTAL HEAT GAIN 30,841
AIR FLOW RATE CFM 18.78 AIR FLOW RATE CFM 31.45

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 @ 6" E.S.P.

TEMPERATURE RISE 55 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	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	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN	WIC-2	ENS-2	DIN	DIN	KIT	KIT	FAM	FAM	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.78	1.64	0.41	1.69	1.15	1.20	1.17	0.67	1.69	1.32	1.56	1.56	1.94	1.94	1.97	1.97	0.86	4.01	1.74	4.34	4.34	4.34	4.34
CFM PER RUN HEAT	33	31	8	32	22	23	22	13	32	25	29	29	36	36	37	37	16	75	33	81	81	81	81
RM GAIN MBH.	3.24	1.10	0.11	1.62	1.46	1.38	0.61	0.85	2.25	0.86	1.38	1.38	1.13	1.13	1.76	1.76	0.17	1.43	0.91	0.47	0.47	0.47	0.47
CFM PER RUN COOLING	102	35	3	51	46	43	19	27	71	27	43	43	36	36	55	55	5	45	28	15	15	15	15
ADJUSTED PRESSURE	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	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	21	28	34	77	58	51	53	54	65	73	40	45	31	23	33	38	10	50	14	39	16	38	47
EQUIVALENT LENGTH	120	160	170	160	150	150	200	180	160	150	200	150	130	140	190	130	170	130	150	160	160	210	160
TOTAL EFFECTIVE LENGTH	141	188	204	237	208	201	253	234	225	223	240	195	161	163	223	168	180	180	164	199	176	248	207
ADJUSTED PRESSURE	0.11	0.09	0.08	0.07	0.08	0.09	0.07	0.07	0.08	0.08	0.07	0.09	0.11	0.11	0.08	0.1	0.1	0.1	0.1	0.08	0.09	0.07	0.08
ROUND DUCT SIZE	6	4	4	5	5	4	4	4	5	4	4	4	4	4	5	5	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	168	356	92	235	162	264	252	149	235	287	333	333	413	413	272	272	184	551	379	595	595	595	595
COOLING VELOCITY (ft/min)	520	402	34	374	338	493	218	310	521	310	493	493	413	413	404	404	57	330	321	110	110	110	110
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	D	D	C	C	A	A	C	B	C	C	C	D	D	A	A	D	B	D	A	D	C	B

RUN #	26	27	28
ROOM NAME	BED-4	BED-2	BED-3
RM LOSS MBH.	1.20	1.69	1.15
CFM PER RUN HEAT	23	32	22
RM GAIN MBH.	1.38	1.62	1.46
CFM PER RUN COOLING	43	51	46
ADJUSTED PRESSURE	0.17	0.17	0.17
ACTUAL DUCT LGH.	45	86	56
EQUIVALENT LENGTH	160	200	210
TOTAL EFFECTIVE LENGTH	205	286	266
ADJUSTED PRESSURE	0.08	0.06	0.06
ROUND DUCT SIZE	4	5	5
HEATING VELOCITY (ft/min)	264	235	162
COOLING VELOCITY (ft/min)	493	374	338
OUTLET GRILL SIZE	3X10	3X10	3X10
TRUNK	A	C	C

SUPPLY AIR TRUNK SIZE							RETURN AIR TRUNK SIZE						
TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)		TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	
TRUNK A	223	0.07	8.3	8	502		TRUNK G	0	0.00	0	0	0	
TRUNK B	188	0.08	7.5	6	564		TRUNK H	0	0.00	0	0	8	0
TRUNK C	473	0.06	11.4	16	532		TRUNK I	0	0.00	0	0	8	0
TRUNK D	970	0.06	14.9	26	672		TRUNK J	0	0.00	0	0	8	0
TRUNK E	0	0.00	0	0	0		TRUNK K	0	0.00	0	0	8	0
TRUNK F	0	0.00	0	0	0		TRUNK L	0	0.00	0	0	8	0

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	115	115	115	260	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	67	66	78	92	40	52	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	245	225	195	235	185	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	312	291	273	327	225	212	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.07	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7	7	7	7	8.8	6.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CITY OF BRANTON
 BUILDING DIVISION
 REVIEWED BY: S. DESAI
 APR 15 2019
 ATTACHED NOTES ARE PART
 OF REVIEWED DRAWINGS
 ALL WORK MUST COMPLY WITH CBC

TYPE: BELLE 1
SITE NAME: GRANELLI HOME CORP

LO # 78992

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	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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	190.8	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	111.3	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	X	0.24

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	✓
BATH	QTXEN050C	50	✓
ENS-2	QTXEN050C	50	✓
W/R	QTXEN050C	50	✓

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 #:	

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* MICHAEL O'ROURKE

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 15 2019
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: BELLE 1

SFQT: 2662

LO# 78992

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 (ft³):	36498.0	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: 46.0 ft	WIDTH: 36.0 ft	EXPOSED PERIMETER:	164.0 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

CITY OF BRAMPTON
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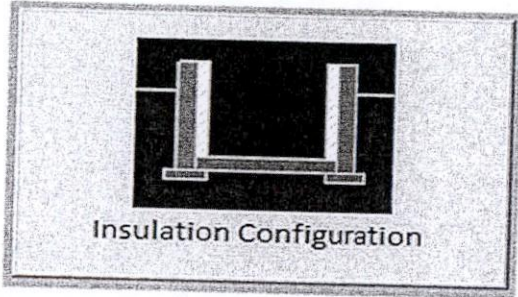
**Compliance Package
A1**

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*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):	14.0	 Insulation Configuration
Floor Width (m):	11.0	
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	CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: S. DESAI APR 15 2019 ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1633	

TYPE: BELLE 1
LO# 78992

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):	1033.5		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1377.7 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
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.335		
Cooling Air Leakage Rate (ACH/H):	0.119		

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: G. DESAI

APR 15 2019

ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBCTYPE: BELLE 1
LO# 78992

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

LO#: 78992

Model: BELLE 1

Builder: GREENYORK HOMES

Date: 6/19/2018

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1140	9	10260
First	1140	11	12540
Second	1522	9	13698
Third	0	9	0
Fourth	0	9	0
Total:			36,498.0 ft³
Total:			1033.5 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 287.09 x 41 °C x 1.2 = 4753 W

= 16218 Btu/h

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

= 0.119 x 287.09 x 8 °C x 1.2 = 318 W

= 1084 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

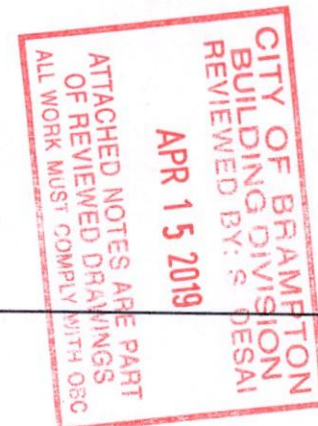
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{cleve})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{cleve})
1	0.5	16,218	9,236	0.878
2	0.3		12,682	0.384
3	0.2		13,025	0.249
4	0		0	0.000
5	0		0	0.000

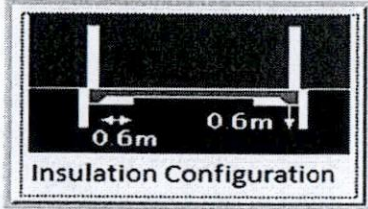
*HLairbv = Air leakage heat loss + ventilation heat loss

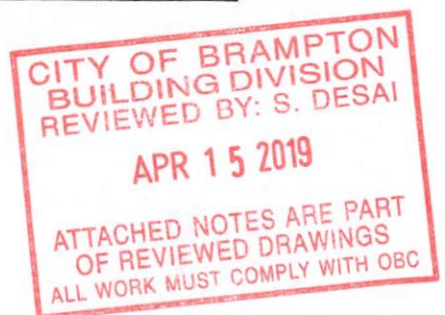
*For a balanced or supply only ventilation system HLairve = 0



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	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):	38	

TYPE: BELLE 1
LO# 78992**LOT 26**

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	116 THORNDAL ROAD	Unit no.	Lot/con. 26
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	Province
Telephone number	(613) 479-0161	Fax number	() N/A
		Cell number	(416) 476-1105
		E-mail	design@andaengineering.com

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 – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work

BELLE 1 EL. 2

WALK-UP CONDITION

GRANELLI HOMES CORP.

D. Declaration of Designer

I, SANDY WHITE, 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: P.Eng. exempt, note 2

I certify that:

- The information contained in this schedule is true to the best of my knowledge.
- I have submitted this application with the knowledge and consent of the firm.

2019/24/01

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.



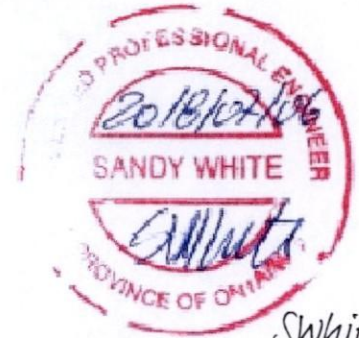
Planning and Development Services
Building Division
8850 McLaughlin Road, Unit 1
Brampton, ON L6Y 5T1

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: BELLE 1 (LO#78992)
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 Diametre 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 $\frac{3}{4}$ 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.

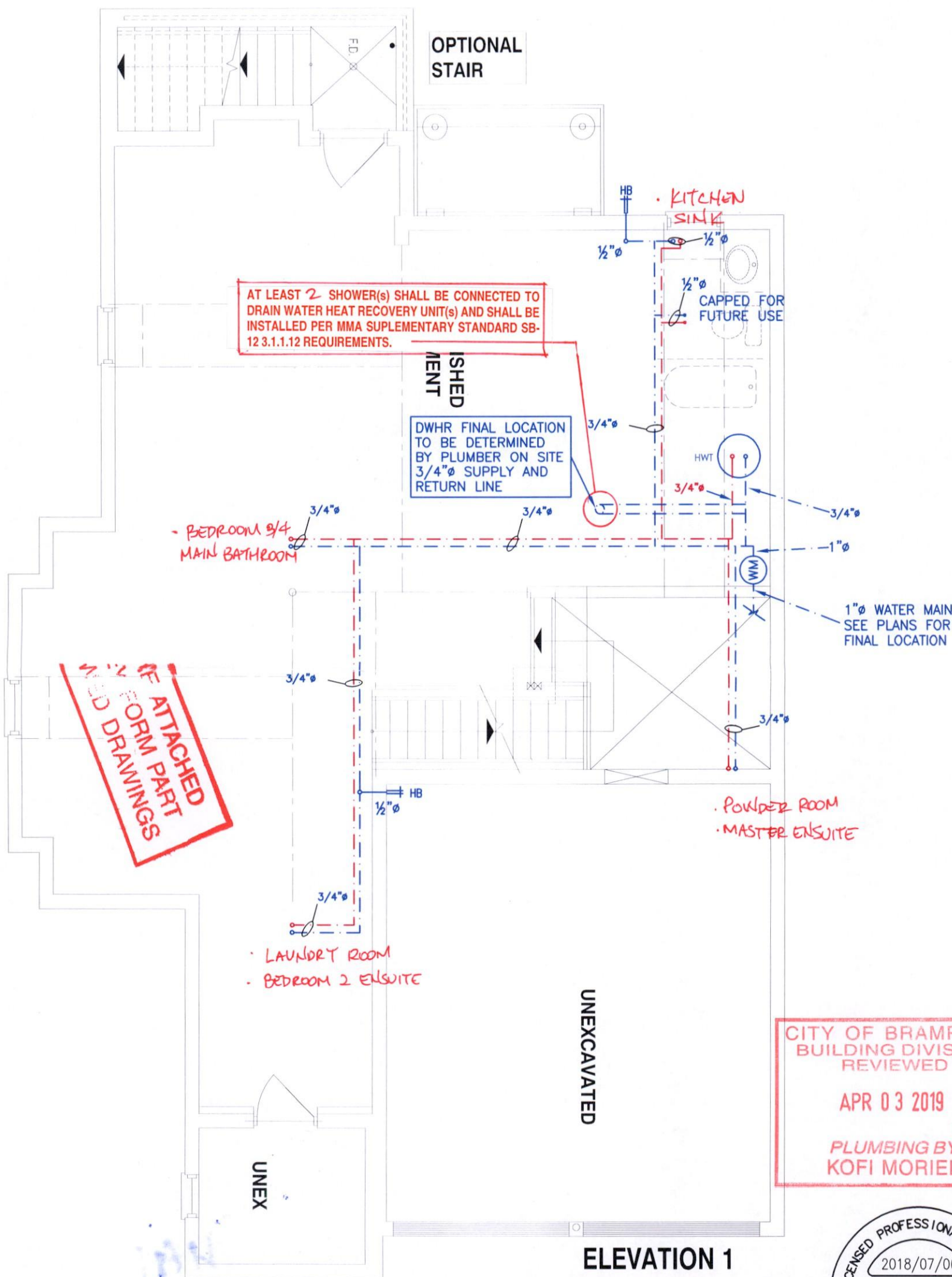
PLEASE SEE THE
NOTES AS THE
OF THE REVIEW

NOTES

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

LEGEND

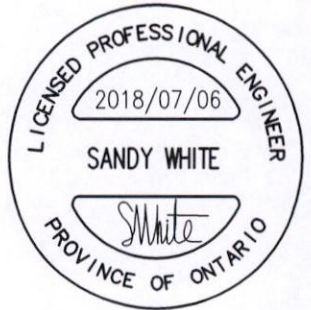
SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
	WATER METER, PROVIDE SUPPLY PIPE SIZE/ Ø
	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
	FLOOR DRAIN



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED

APR 03 2019

PLUMBING BY
KOFI MORIEL



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

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

BELLE 1 2658 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"

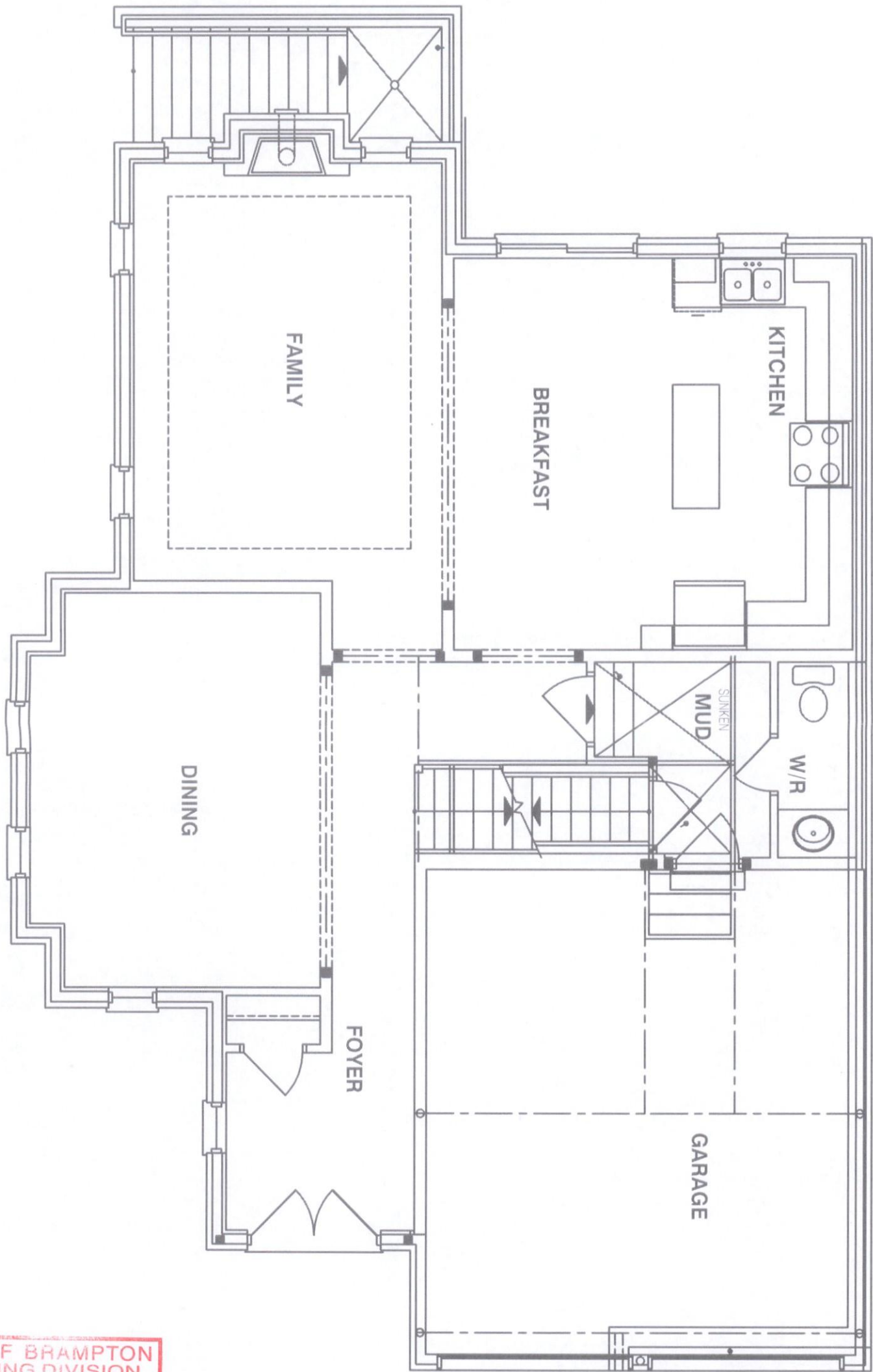
LO# 78992-P

NOTES

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

LEGEND

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

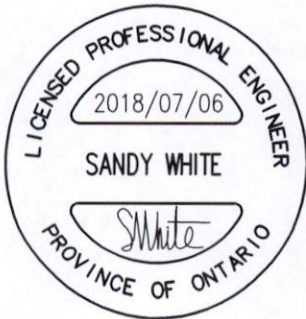


ELEVATION 1

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED

APR 03 2019

PLUMBING BY
KOFI MORIEL



Client

GREENYORK HOMES

Project Name

GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M - 2057 LOT 26

BELLE 1

2658 sqft

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Sheet Title

FIRST FLOOR
PLUMBING
LAYOUT

Date

JULY 2018

Scale

3/16" = 1'-0"

LO#

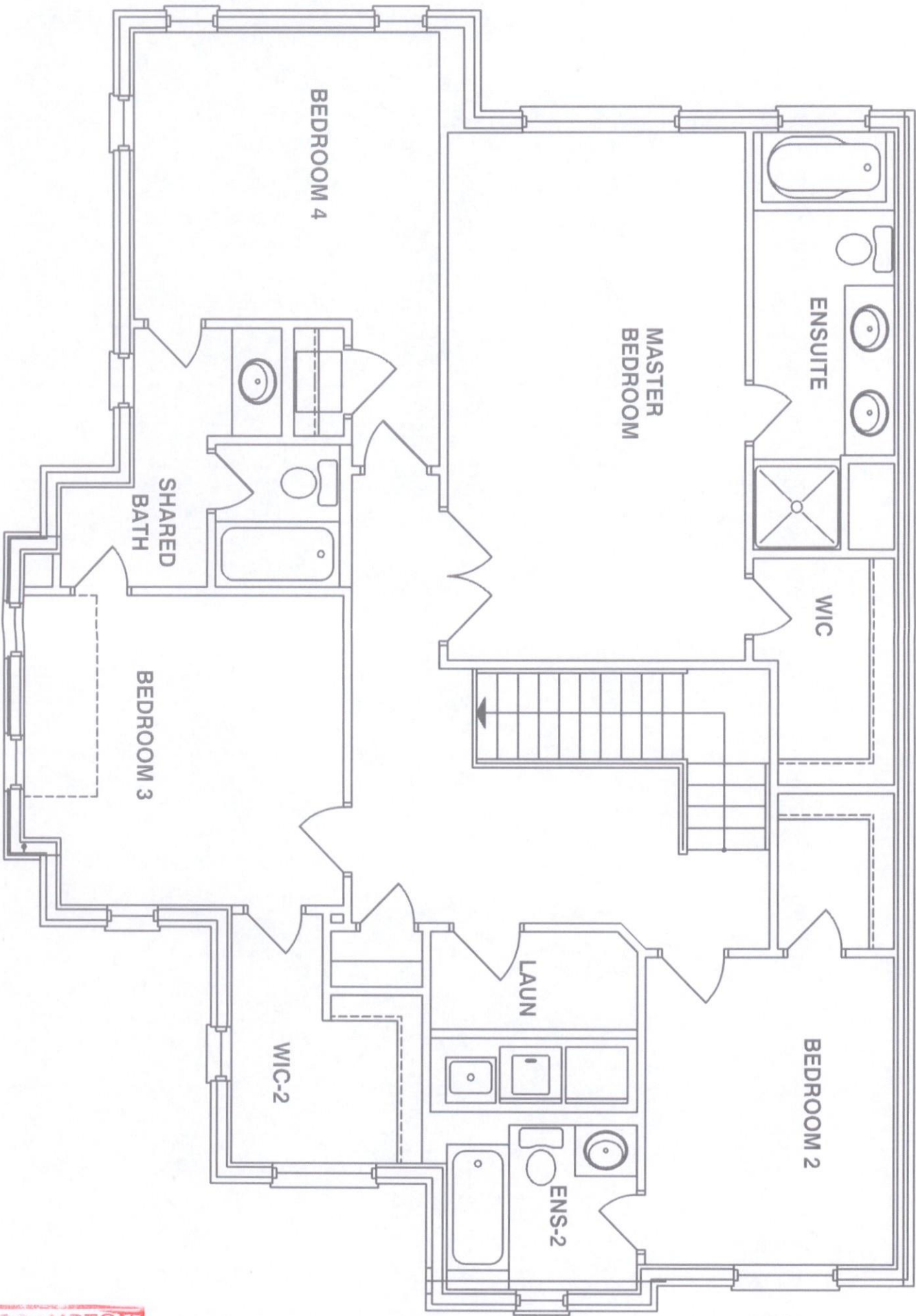
78992-P

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	FLOOR DRAIN



ELEVATION 1

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Sheet Title

SECOND FLOOR
PLUMBING
LAYOUT

Date

JULY 2018

Scale

3/16" = 1'-0"

LO#

78992-P