BOWEN ISLAND Municipality

Grade & Height Calculations

This brochure is a general guideline for grade and height calculations for simple buildings including most accessory buildings and single-family homes, with or without an attached secondary suite. The information included can be found in Bowen Island Municipality Bylaw No. 528, 2020 to amend Land Use Bylaw No. 57, 2002. This amendment comes into force on January 1, 2022. Refer to the Land Use Bylaw for exact definitions and regulations.

Average natural grade is measured around the perimeter of the building or structure at, or directly above or below the outermost projection of the exterior walls or the posts of carports.
Average finished grade is the average of the final ground surface after development.
Maximum building height is measured from the lower of average natural or average finished grade to:

a) the highest point of a building with a flat roof;
b) the mean height line between the highest point of the building and the ceiling immediately below for buildings with pitched or shed roofs and attic space;
c) the mean height line between the peak and a point 2.44 metres above the immediate floor below for buildings with pitched or shed roofs without ceilings; or
d) the highest point of the flat roof or to the midpoint of the projected peak of the pitched roof, whichever is higher, for buildings with roofs composed of a combination of pitched and flat elements.

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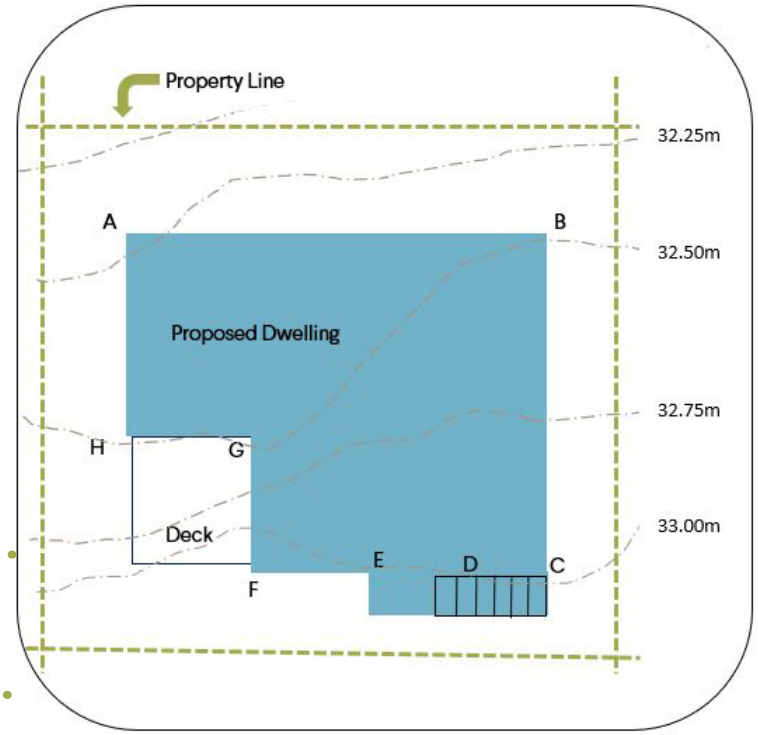
Calculations for **both** finished and natural grade are required. The **lower** of these will be used in building height and floor area ratio calculations. Average grades will differ between finished and natural.

Example: to calcualate the NATURAL grade:

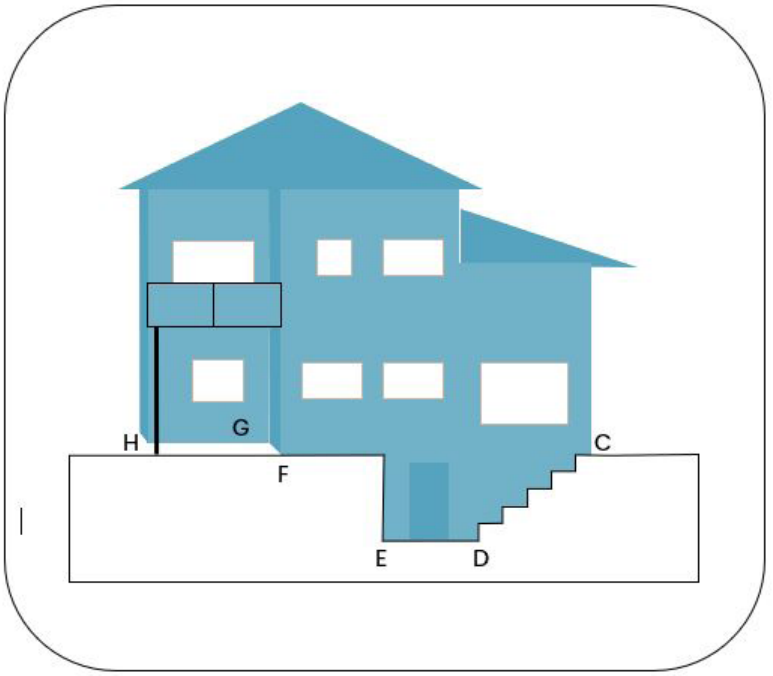
	GRADE	X	LENGTH	TOTAL
A - B	(32.22 + 32.52) ÷ 2	x	6.1	197.46
B - C	(32.52 + 33.07) ÷ 2	x	4.97	162.99
C - D	(33.07 + 33.01) ÷ 2	x	2.35	77.64
D - E	(33.01 + 32.98) ÷ 2	x	1.52	50.15
E - F	(32.98 + 32.86) ÷ 2	x	1.83	60.24
F - G	(32.86 + 32.52) ÷ 2	x	2.56	83.69
G - H	(32.52 + 32.52) ÷ 2	x	1.92	62.44
H - A	(32.52 + 32.22) ÷ 2	x	2.8	90.64
TOTAL			24.05	785.25
Average Natural Grade = 785.25 ÷ 24.05 = 32.65m				



Grade and height calculations are to be submitted in metric units.

Example: to calcualate the FINISHED grade:

	GRADE	X	LENGTH	TOTAL
A - B	(32.19 + 32.40) ÷ 2	x	6.1	197
B - C	(32.40 + 32.31) ÷ 2	x	4.97	160.8
C - D	(32.01 + 30.02) ÷ 2	x	2.35	72.89
D - E	(30.02 + 30.02) ÷ 2	x	1.52	45.63
E - F	(32.61 + 32.43) ÷ 2	x	1.83	59.51
F - G	(32.43 + 32.43) ÷ 2	x	2.56	83.02
G - H	(32.43 + 32.28) ÷ 2	x	1.92	62.12
H -A	(32.28 + 32.19) ÷ 2	x	2.8	90.26
TOTAL			24.05	771.23
Average Natural Grade = 771.23 ÷ 24.05 = 32.07m				



Visit our website for a sample excel spreadsheet to calculate average grades.

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