

Average Grade

Building Services Information Sheet

Last Updated: August 2021

The determination of average grade affects the fire safety measures required by the Ontario Building Code. The purpose of this interpretation is to provide guidance on how average grade is calculated.

Ontario Building Code definitions:

Grade - means the average level of proposed or finished ground adjoining a building at all exterior walls.

First Storey - means the storey that has its floor closest to grade and its ceiling more than 1.8m above grade.

Grading Plan requirements:

The permit applicant must provide the average grade determination on the Grading Plan. The requirements for determining average grade are as follows:

- Grade points can be measured adjacent to the building face where the slopes are not more than 5%.
- The grade points shall be taken for the entire perimeter of the building. Each point, where there is a change in grade, shall be considered in the calculations.
- If firewall(s) have been proposed, the average grade shall be determined separately for **each building**. The building will be considered a 3-sided building for the purposes of determining the average grade.

Other Considerations:

- Where ceiling height changes, the ceiling height shall be taken as the average throughout the entire floor area of the building.
- Where the average grade within 5m of the building exceeds 5% slope, additional site-specific analysis may be required to determine suitability for firefighting purposes.
- Where it is necessary to travel up or down more than 1 storey to reach a level served by an exit or egress doorway, an openable window or door shall be provided for that floor level in accordance with 9.9.9.1.(2). Alternatively, balconies can be provided in accordance with 9.9.9.1.(3).
- Determination of First Storey:
 - Where the ceiling height is greater than 1.8m in height above the average grade as calculated above, the floor is considered the first storey.
 - Where the ceiling height is less than 1.8m below the average grade as calculated above, the floor is considered a basement.
- The Building Department reserves the right to evaluate any building on an individual basis.

Artificial Grade:

The City of Barrie does not support the use of planters, retaining walls, or podiums to artificially enhance the grading of the site as it relates the building height. Where the grade is artificially enhanced, a site-specific analysis will be required and will be subject to further Building Department and Fire Department assessment.