

DETERMINATION OF GRADE

DISCUSSION

The rules provided by the Code for the determination of grade along the plane of the building face are very prescriptive. This is necessary since the establishment of grade allows for the determination of building height. Building height is the determinant for the application of many other requirements in the Code including:

- a) classification of the building into Part 9, Part 3 or as a high building,
- b) the type of construction required and the rating of fire separations between storeys, and
- c) the necessity for fire detection systems, fire suppression systems, etc.

Although the rules for determining grade along the face of the building are dealt with comprehensively by the Code, little is said concerning the requirements for grade to be maintained as it extends away from the exterior wall.

As well as being the criterion used to establish building height, grade also plays a major role in providing acceptable access for fire fighters to a building. Grade around a building which is excessively sloped may produce an exposing building face that is much less accessible to fire fighters than anticipated by the Code.

Where a building is required to face a street, excessive slopes may also hinder or prevent necessary fire fighting equipment from setting up. Article 3.2.5.5. requires access routes to be designed so that they are no closer than 3 m from the building face and Article 3.2.5.6. requires that they are to be at least 6 m wide. It is expected the access route would be at or near grade.

On the other hand, finished ground level that is flat or has very little slope to it may not provide effective surface drainage thus creating structural or water penetration problems for the building.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2006.



Issue of this STANDATA is authorized by
the Chief Building Administrator

[Original Signed]
Ata R. Khan, MRAIC



SAFETY CODES COUNCIL

CODE REFERENCES

1. Sentence 1.4.1.2.(1) of Division A states:

Grade (as applying to the determination of *building height*) means the lowest of the average levels of finished ground adjoining each exterior wall of a *building*, except that localized depressions such as for vehicle or pedestrian entrances need not be considered in the determination of average levels of finished ground. (See *First storey*.)

Street means any highway, road, boulevard, square or other improved thoroughfare 9 m or more in width, that has been dedicated or deeded for public use and is accessible to fire department vehicles and equipment.

INTERPRETATION

1. Where a building is required to face a street and the exposing building face has a limiting distance greater than 0.6 m, grade is to extend
 - a. not less than 9 m from the exterior face of the wall, or
 - b. to a public thoroughfare, access route or property line, whichever distance is less.

To allow for effective surface drainage, the finished ground level may slope a maximum of

- a. 1 in 8 over the first 2 m, and
 - b. 1 in 10 over the remaining 7 m.
2. Where a building is not required to face a street and the exposing building face has a limiting distance greater than 0.6 m, grade is to extend
 - a. not less than 1.2 m from the exterior face of the wall, or
 - b. to a public thoroughfare, access route, property line or adjacent building, whichever distance is less.

This INTERPRETATION is applicable throughout the province of Alberta.