



Steep Slope Development Permit Guidelines



Area

Subdivision or alteration of land (including grading, tree clearing, and installation of services); and construction of, addition to, or alteration of a building or structure that occur in areas shown on Map 14 are subject to these Steep Slope Development Permit Guidelines. The areas shown on Map 14 include:

- land with slopes of 20% or greater
- land within 20m of slopes that are 20% or greater

Justification

As Abbotsford continues to grow, development may occur in areas with steep slopes where the potential risk of natural hazards such as landslides, erosion, debris flows, etc. present a danger to people and their property.

Steepness of slopes does not necessarily correlate with stability of slopes, which depends on factors such as geological material, soils, moisture content and vegetation cover. However, precautions are needed to ensure development activity or resulting retaining structures do not create hazardous conditions.

Objectives

The following guidelines are intended to allow land to be used for its intended purposes, while also protecting residents and property from the potential risk of natural hazards. In some cases, development on or near steep slopes is unavoidable and requires measures during site and building design, construction, and long term maintenance to minimize the associated risks.

Exemptions

Bylaw No.
2721-2018

Notwithstanding the following exemptions, the Community Charter enables a building inspector to require a geotechnical report.

1. Lands within both the Agricultural Land Reserve and designated for Agriculture
2. A subdivision for lot consolidation or road widening
3. Construction, addition or alteration not exceeding 10m² (100ft²) where no variance(s) is (are) required
4. Notwithstanding exemption 3, all interior/exterior building alterations that do not expand the existing building foundation
5. Buildings that have been destroyed by fire and/or natural disaster less than 75%, as determined by the building inspector provided the building massing, siting and general appearance are as prior to destruction and the use conforms to the Zoning Bylaw
6. Emergency circumstances to remove any immediate danger
7. Municipal works, services and maintenance activities carried out by, or on behalf of, the City generally in accordance with these guidelines
8. A restrictive covenant which effectively protects the property from the hazardous condition(s) is (are) already registered on the subject property, all the conditions in the covenant are met, and the proposed activity will not affect any portion of the hazardous conditions

9. Where the proponent provides satisfactory information to the City that clearly demonstrates that the proposed activity will not be in conflict with the Development Permit Guidelines. The determination may need to be by a qualified professional, which concludes that the portion of land being developed is not subject to hazardous conditions

Guidelines

The following guidelines may be applied when setting Development Permit conditions:

HAZARDOUS CONDITIONS

To identify parts of a parcel that require special consideration.

SS1 Slope

Avoid developing on land with slopes over 30%. Development may be considered on slopes greater than 30% where it can be demonstrated that the proposed development will not create environmental or visual impacts, can be sensitively integrated with terrain, and presents no hazards to persons or property.

SS2 Unique Hazards

Identify unique hazards such as abandoned mine shafts and implement mitigation measures to deal with the hazardous conditions.

CONDITIONS FOR DEVELOPMENT

To establish general conditions and expectations of development in areas with steep slopes.

SS3 Geotechnical Assessment Report

A Geotechnical Assessment Report is required for a parcel subject to a Steep Slope Development Permit to determine any risks from natural hazards and any required mitigation measures to the satisfaction of the City. All steep slopes on the subject site should be assessed as part of a Geotechnical Assessment Report, regardless of whether development or site alteration activity will occur on the particular steep slope(s). A third party peer review of a Geotechnical Assessment Report may be required at the expense of the applicant.

SS4 Slope Protection

Protect slopes identified as unsuitable for development by a Geotechnical Assessment Report through measures such as dedication to the City, establishing a restrictive covenant, or rezoning.

SS5 Mitigation and Conditions

Do not develop in areas with a potential for natural hazard, unless a qualified geotechnical professional provides recommendations for:

- mitigation measures to reduce risk of natural hazards for both the subject site and any adjacent and/or other potentially affected areas to an acceptable level during all stages of development;
- conditions (i.e. conditions relating to the permitted uses, density or scale of building) necessary to reduce risk of potential natural hazards to acceptable levels.

SS6 Minimum Setback from Steep Slopes

Ensure all development, in addition to septic fields, swimming pools, hot tubs, ponds, or other uses at or near the top or base of steep slopes is set back a minimum of 10 metres from the top or base of any steep slope except as otherwise recommended by a qualified professional. Where development is near steep slopes greater than 30%, increase setback to a minimum of 15 metres except as otherwise recommended by a qualified professional.

ALTERATION OF SLOPES

To guide the alteration of slopes to reduce the risk of potential natural hazards to the property and its surroundings.

SS7 Site Design

Design a project to fit the site rather than altering the site to fit the project.

SS8 Cluster Development

Cluster development as a means to minimize slope disturbance.

SS9 Lot Configuration

Use variation in lot sizes and subdivision layout to reflect the natural site contours, minimize cut and fill, and maximize developable areas. Do not create large flat terraces on hillsides to expand developable area.

SS10 Road Alignment

Align roads to follow natural site contours, conforming to existing topographic conditions rather than cutting across contours.

SS11 Grading

Provide site grading that is smooth and stable. Finished slopes of all cuts and fills should not exceed a three-to-one (3:1) grade unless the applicant can demonstrate that steeper slopes can be stabilized and maintained adequately.

SS12 Undercutting

Avoid undercutting the base of steep slopes for building, landscaping or other purposes except in accordance with the recommendations of a qualified professional.

SS13 Location of Fill

Ensure fill is not located within 10 metres of the top of a steep slope.

SS14 Retaining Wall Height

When designing retaining walls, respect the natural characteristics of the site and terrace walls to avoid overpowering the site with a large uniform wall face. As a general guide, retaining walls should not exceed 3.0 metres in height adjacent to roads and services and 1.2 metres in height between individual properties.

SS15 Retaining Wall Terraces

Terrace retaining walls with sufficient width to allow plantings and maintenance. The height and depth of the retaining wall steps should be consistent with the natural terrain or with the slope above and below the walls. Lock block style retaining walls are not permitted.

SS16 Building Forms and Massing

Step and articulate building forms to integrate and reflect the natural site contours and slope conditions. Avoid large unbroken building masses unsuitable for sloped conditions.

LANDSCAPE

To guide the design of landscaping for the mitigation of hazardous conditions on a property with a steep slope.

SS17 Site Drainage

Design and maintain property, roof drainage and landscaping to shed water away from slopes. Avoid ponding near slopes.

SS18 Vegetation Maintenance and Reinstallation

Maintain and/or reinstall vegetation on the slopes and within any required setback above the slopes in order to absorb water and minimize erosion.

SS19 Slope Reinforcement

Reinforce and revegetate disturbed slopes, especially where gullied or where bare soil is exposed, as soon as possible. Plant in accordance with the recommendations of a qualified professional. Ensure monitoring and maintenance of restored areas by qualified professionals until such time as the vegetation is established.

SS20 Native Species

When revegetating steep slopes, plant species native to the Coastal Western Hemlock Biogeoclimatic Zone.

SS21 Tree Removal

Avoid tree removal on steep slopes and retain trees as much as possible elsewhere.

SS22 Erosion and Sediment Control

Where appropriate, follow erosion and sediment control measures in accordance with the Erosion and Sediment Control Bylaw.

SS23 Maintenance and Monitoring

Maintain and monitor mitigation measures to ensure that the works are completed in accordance with the Development Permit.

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