Sloping Sites - Geotechnical Requirements

Bulletin 2012-02
July 04, 2012

Purpose

Development on or adjacent to sloping sites may be adversely affected by, or adversely affect, slope and site stability, sub-surface soil conditions, ground water and surface drainage. Legislation governing requirements for these sites include:

- **Section 56 of the Community Charter.** If land has potential for landslides, a Qualified Professional must report the land may be used safely for the use intended and that a registered covenant restricting the use of the land may be required.

- **The British Columbia Building Code.** The Geotechnical Letters of Assurance ensure that an application complies with the British Columbia Building Code (BCBC) and there will be professional field review during construction.

In addition, APEGBC's "Guidelines for Legislative Landside Assessment for Proposed Residential Developments in BC" (the Guidelines) were developed to provide direction for Qualified Professionals who must assess life risk tolerance and assure the land is safe for the intended use.

These requirements apply to all development where a building permit is required under the District of Maple Ridge Building Bylaw.

Requirements

A *Geotechnical Letter of Assurance* will be required if:

- the development is on a slope greater than 10%
- the development is within 10 meters of the top of a slope greater than 10%
- the development is within 5 meters of the base of a slope greater than 10%

A *Geotechnical Letter of Assurance* and a *Geotechnical Report* will be required if:

- the development is on or within 5 meters of a slope greater than 20%
- the development is within 10 meters of a slope greater than 35%**

**Development is prohibited from occurring on slopes greater than 25% by the District's Zoning Bylaw.

A building permit application will only be accepted with the following:

- Geotechnical Letter of Assurance or Geotechnical report as required above
- Proof of Liability Insurance
- Two complete sets of sealed architectural plans
- If a geotechnical covenant already exists on title, a **signed and sealed letter** from the geotechnical engineer stating they have read the covenant.

The building permit will not be issued until the District's Building Official has reviewed and accepted the reports by the Qualified Professional. In addition, if a covenant is required the building permit will not be issued until the owner of the lands covenants with the District to use the land only in the manner determined and certified by the Qualified Professional. The covenant must be registered under section 219 of the Land Title Act.

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Requirements for *Geotechnical Letters of Assurance*

- Letters of Assurance are to be submitted in the form provided in the BCBC Current Edition
- As a minimum requirement, Geotechnical engineers must indicate on Schedule B responsibility as follows:
    - Geotechnical - Temporary:
        - 7.1 Excavation — ALL PROJECTS
        - 7.2 Shoring — ALL PROJECTS
        - 7.3 Underpinning — IF APPLICABLE
    - Geotechnical - Permanent
        - 8.1 Bearing capacity of soil — ALL PROJECTS
        - 8.2 Geotechnical aspects of deep foundations — IF APPLICABLE
        - 8.3 Compaction of Engineered fill — IF APPLICABLE
        - 8.4 Structural consideration of soil — ALL PROJECTS
        - 8.5 Backfill — IF APPLICABLE
        - 8.6 Permanent dewatering — IF APPLICABLE
        - 8.7 Permanent underpinning — IF APPLICABLE
    - Plumbing
        - 4.2 Site and foundation drainage systems — IF APPLICABLE
- The Letter of Assurance must indicate it is for the **entire site** including any retaining walls.

Requirements for Geotechnical Reports

Please refer to the APEGBC's Guidelines, latest revision, for full guidelines including Risk Tolerance Criteria and Appendix D - Landslide Assessment Assurance Statement.

It is expected that the Qualified Professional will exercise professional judgment when preparing their reports and may determine that a higher or lower level of effort is required on a site specific assessment.

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