

M Sloping Sites (Greater than 10 Deg / 18%) Geotechnical Letters of Assurance **Master Requirement SPE 104**



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 must be in place.
- **The British Columbia Building Code 2006.** The Geotechnical Letters of Assurance ensures that an application complies with the British Columbia Building Code and that there will be professional field review during construction.

Subsequent to this legislation, the APEGBC 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.

Background

Site stability, sub-surface soil conditions, bearing capacity and the effects of ground water and surface drainage can negatively affect development on or adjacent to sloping sites. The potential negative effects of constructing on a slope generally increase as the degree of slope increases. Some of these impacts may include:

1. The disturbance or removal of existing trees, vegetation and ground cover through the construction and excavation process which can dramatically affect slope stability and existing surface water characteristics,
2. Excavations and changes to ground water patterns which can alter slope stability, and
3. Deep excavations which can result in hydrostatic pressures against foundation walls.

In order to avoid unnecessary delays applicants are advised to request a Pre-Application appointment to determine the involvement of Qualified Professionals on their project to assess the risk involved in construction and provide professional letters of assurance.

Please note **Geotechnical Letters of Assurance** will be required if:

- the development is on a slope greater than 10 degrees (18%)
- the development is within 5 metres of the base of a slope greater than 10 degrees (18%)

As well, **Geotechnical Letters of Assurance** and a **Geotechnical Report** will be required if:

- the development is on a slope greater than 20 degrees (36%)
- the development is within 10 metres of the top of a slope greater than 20 degrees (36%)
- the development is within 5 metres of the base of a 20 to 30 degree slope (36% to 54%)
- the development is within 10 metres of the base of a slope greater than 30 degrees (54%)

Professionals providing geo-scientific or engineering services for clients need to follow APEGBC guidelines outlining Provincial legislation requiring “that a Professional Engineer or Professional Geoscientist indicate whether the residential development will be ‘safe’ from the effects of landslides”. (Guidelines for Legislated Landslide Assessment for Proposed Residential Developments in BC, APEGBC, revised May 2010).

Please note any professional involved in a project must have the proper professional registration requirements and be ‘in good standing’ with APEGBC. The Building bylaw of the District of North Vancouver requires professional proof of liability insurance at time of building permit application.

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

- all of the required reports by Qualified Professionals,
- Appendix D (see APEGBC Guidelines),
- Letters of Assurance,
- Proof of Liability Insurance (Schedule F),
- two complete sets of sealed architectural plans,
- two complete sets of P. Eng sealed structural building plans, and
- a recent topographical survey sealed by a registered BCLS.

Requirements for Geotechnical Letters of Assurance:

Letters of Assurance are to be submitted in the form provided in the British Columbia Building Code.

As a minimum requirement Geotechnical engineers must indicate on Schedule B responsibility as follows:

MASTER REQUIREMENT SPE104 – GREATER THAN 10 DEG / 18% - GEOTECHNICAL LETTERS OF ASSURANCE

Geotechnical – Temporary:

- 7.1 Excavation ALL PROJECTS
- 7.2 Shoring ALL PROJECTS
- 7.3 Underpinning IF APPLICABLE*
- 7.4 Temporary construction dewatering ALL PROJECTS

Geotechnical – Permanent:

- 8.1 Bearing capacity of soil ALL PROJECTS
- 8.2 Geotechnical aspects of deep found IF APPLICABLE*
- 8.3 Compaction of engineered fill ALL PROJECTS
- 8.4 Structural consideration of soil ALL PROJECTS
- 8.5 Backfill ALL PROJECTS
- 8.6 Permanent dewatering IF APPLICABLE*
- 8.7 Permanent underpinning IF APPLICABLE*

Plumbing:

- 4.2 Site and foundation drainage systems ALL PROJECTS

*These are site dependent and may be required as well.

Contacts

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