A. Concerns that the Mines and Geology Division seeks to address in its review of applications:

1. *Slope Steepness and Slope Stability*
   - Areas with moderate to very steep slope gradients which may be predisposed to various forms of mass movement (landslides, rock falls, soil creep, soil erosion etc.)
2. *Storm Surge & Coastal Erosion*
   - Areas along the coastline prone to storm surge, seal level rise and coastal erosion.
3. *Flooding*
   - Flat low-lying areas prone to flooding
   - Areas in close proximity to major rivers and gullies.
   - Karst terrain characterized by flood prone depressions
   - Development on hillside areas which may result in flooding of low-lying areas downslope.
4. *Subsidence and Seismic Risk*
   - Areas characterized by karst topographic features such as limestone cavities and sinkholes which may result in structural collapse.
   - Areas with high susceptibility to seismic risk
   - Areas predisposed to subsidence and soil liquefaction
5. *Major Civil and Coastal Engineering Works*
   - Areas where major civil infrastructural development is proposed (major roadways, dams, large housing development, beach nourishment projects, coastal protection structures etc.).

B. Supporting Documents for Development Applications Submitted to the MGD

1. *Contour plan*

   A detailed contour plan with intervals of 1-2m or spot heights where the topography of the land is flat to gently sloping is generally required for all development applications submitted to the Division. The contour plan should also include clearly reproduced scale bar and scale ratio.

2. *Site Location Map*

A site location map of the proposed development is a standard supporting document required for all applications (e.g. 1:12,500 imperial topographic inset – with grid referencing).

3. *Site Layout Plans*

A site layout plan shows a detailed layout of the site, building footprint, parking, landscaping and any other structures that are part of a development project. The submission of a site layout plan is a standard supporting document requirement for the processing of development applications.

4. *Road Profile*

A geometric roadway design showing the road alignment, road profile, and cross-section should be submitted to the Division for review. Profiles should illustrate existing ground elevation and proposed elevation, road gradient, chainage, etc.

5. *Grading Plan*

A cross-sectional profile showing proposed site modifications (cuts and fills) is generally required as supporting documents for development applications submitted to the Division for review. Grading plans are generally required for building applications and subdivision applications where considerable site modification is proposed or required to facilitate the development.

6. *Geotechnical Report*

A geotechnical report or soil report is generally required for sites located in geologically sensitive areas prone to slippage, differential settlement, and other forms of slope instability.

7. *Slope Gradient Analysis*

A slope gradient analysis showing the various slope gradient categories of a given land parcel may be required based on the nature of the proposed development. This is generally requested in order to verify the slope gradient classes and corresponding lot size requirements for individual lots in a subdivision or building application. A Slope Gradient Analysis is not generally required for all applications, but is requested on a case by case basis.

8. *Drainage Plan*

Residential and non-residential developments (not governed by a pre-approved drainage plan) require that a drainage plan or drainage report be prepared for that particular site. Drainage Plans must be prepared by a registered civil engineer.