

A slope stability study should assess the potential risks of erosion or slope failure, in relation to proposed development, and provide a safe setback(s) to prevent any potential impacts to human safety and damage to property.

For development activities within the erosion hazard which may result in slope instability and/or erosion, a slope stability study is required to ensure that the development is not subject to unacceptable risk. The study is required if the following condition is met:

- Sites with slopes (existing or proposed) steeper than 3 horizontal to 1 vertical (3H:1V) or 5H:1V for Champlain Sea Clay (or Leda Clay) and/or a grade difference of more than 2 metres in height

The analysis should be based on existing conditions not engineered conditions. Additional information may be required on a case-by-case basis. A slope stability study should include, but is not limited to, the following:

Supporting Technical Requirements	
Site Description	<ul style="list-style-type: none"> - Location map of the proposed development - Legal limits of the property, regulations limits, and nearest watercourse - Topography, geology and soils - Photographs of site/slope conditions
Slope Stability Assessment	<p>Surface and subsurface conditions:</p> <ul style="list-style-type: none"> - Field inspection, field procedures, and laboratory tests (boreholes) - Soil conditions and soil parameters - Groundwater conditions - Topographic survey <p>Slope conditions:</p> <ul style="list-style-type: none"> - Slope geometry, slope geology, and static and seismic loading conditions - A factor of safety, stability of the existing slope and long-term stable slope <p>Evaluation of the erosion hazard limit:</p> <ul style="list-style-type: none"> - Toe erosion allowance, stable slope allowance or meander belt allowance, and erosion access allowance* - Analysis of the proposed development location in relation to the erosion hazard limit - Mitigation and stabilization measures - MNR's Slope Inspection Record and Slope Rating Chart in section 4.3.2 *
Plans and Drawings	<ul style="list-style-type: none"> - Georeferenced legal survey (i.e. NAD 83, UTM, Zone 18) - Site plan of the existing/proposed structures, nearest watercourse, MVCA's regulation limit - Grading plan with geodetic elevations and overland flow conditions - Location plan of soil samples, test pits and borehole test logs - Cross-section profiles including existing/proposed H:V slopes, toe of slope, stable slope, and erosion access allowance - Erosion hazard limit including toe erosion allowance, stable slope allowance or meander belt allowance, and erosion access allowance* - Setback distance to be delineated for minor variance applications - Proposed mitigation/stabilization plan (if permitted) - Fill control plan (if required) - Erosion & sediment control measures (if required), site stabilization/restoration, etc - Recommendation to confirm slope risk and stability and impacts associated with development. - Reference to applicable MVCA regulation policies
Qualified Persons	Signed and stamped by a qualified professional engineer licensed in the Province of Ontario

* In accordance with the Ministry of Natural Resources (MNR) *Technical Guide – River and Stream Systems: Erosion Hazard Limit* (2002)