Properties that contain the erosion hazard of Lake Ontario

The information in this brochure is for landowners with property adjacent to the Lake Ontario shoreline, or for potential purchasers of those properties. This information relates to setbacks associated with the erosion hazard that affect lakefront properties. Other hazards which may also be present on properties adjacent to Lake Ontario are not discussed here, including flooding hazards (a concern on low lying properties), and dynamic beach hazards (Burlington Beach in Halton Region).

Have questions? Call us.

Information contained in this pamphlet is meant to offer you a simplified explanation of Ontario Regulation 162/06 and associated policies. We invite you to contact Conservation Halton for further guidance. Our staff are available to answer your questions and address any concerns you may have.
We encourage you to contact us as early as possible in your planning process. We can help ensure that hazard limits and required development setbacks are appropriately incorporated into your plans, thus avoiding delays and potential violations of Ontario Regulation 162/06.

Conservation Halton

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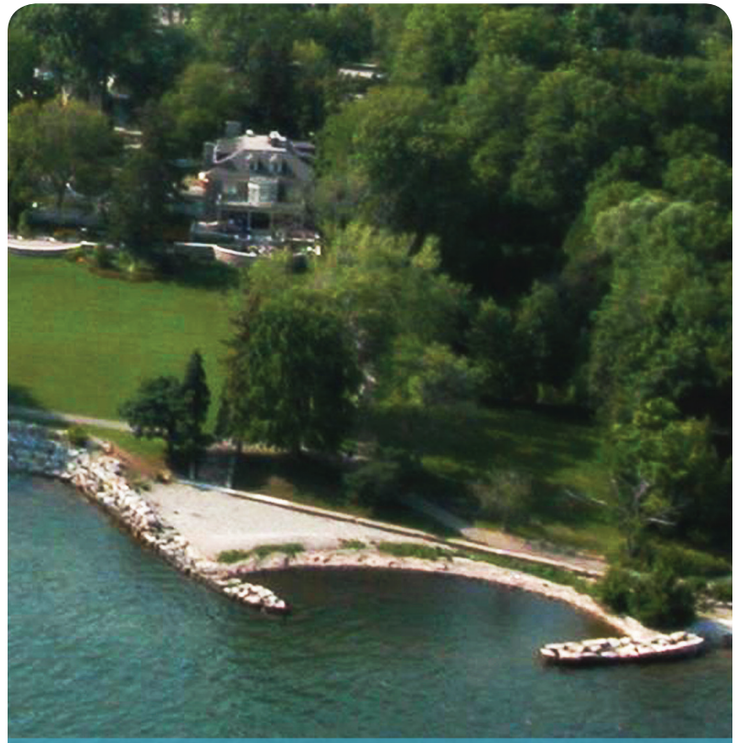
On May 1, 2004, the Generic Regulation (Ontario Regulation 97/04) was approved by the Province under Subsection 28(1) of the *Conservation Authorities Act*. This regulation establishes the content that a regulation made by an authority under Subsection 28(1) of the *Conservation Authorities Act* must meet. One of the results of Ontario Regulation 97/04 is that Conservation Halton now regulates shoreline areas affected by *flooding, erosion* and *dynamic beach hazards*. Conservation Halton's specific regulation is Ontario Regulation 162/06.



Living on the Lake

Lake Ontario Erosion Hazards in relation to Ontario Regulation 162/06

Conservation Halton

Why is the Lake Ontario Erosion Hazard important to you as a property owner?

Conservation Halton's shoreline policies are intended to minimize damage and protect you and your family, your property, and the public from hazards such as flooding and erosion.

An erosion hazard is the loss of land due to natural processes and human interventions, which can pose a threat to life and property. Conservation Halton's policies associated with the erosion hazard of Lake Ontario are based on avoiding and prohibiting any new or additional habitable space within the erosion hazard, where it would be subject to damage.

Conservation Halton's policies related to the erosion hazards of Lake Ontario, associated with Ontario Regulation 162/06, are consistent with Provincial policy, which also directs development outside of lands considered hazardous.

What is the Lake Ontario Erosion Hazard?

The Lake Ontario erosion hazard is the portion of land that may be subject to erosion over 100 years and is determined by the sum of the **erosion allowance** and the **stable slope allowance**.

Erosion Allowance

The erosion allowance is based on the average annual recession (erosion) rate of the natural shoreline in your area, extended over 100 years — this is the standard planning horizon used in Ontario for erosion hazards. The erosion allowance is a horizontal measurement that is calculated landward from the toe of the bank where the natural shoreline exists, and does not include shoreline protection works which may extend beyond the toe of the bank. (See next page for detailed description)

Stable Slope Allowance

The stable slope allowance is the angle of inclination at which a slope is stable and will not slide and result in ground loss or movement. The stable slope allowance should be measured landward (away from the Lake) from the inland limit of the erosion allowance up to the existing ground elevation. (See next page for detailed description)

How are setbacks determined and can they be refined?

1 BASELINE EROSION HAZARD DETERMINATION

If a landowner is looking to determine a baseline setback from Lake Ontario, Conservation Halton staff can assist them if the landowner provides an up-to-date topographic map of their property. In Halton Region the average annual recession rate of the shoreline is 0.3 metres/year (0.2 metres/year for Hamilton Harbour). As such, using a 100 year planning horizon, the erosion allowance is 30 metres (20 metres for Hamilton Harbour). The stable slope allowance must then be added to the erosion allowance for a final erosion hazard limit. The soils along the shoreline of Lake Ontario within Halton Region can be considered stable, without additional study, at a 3 horizontal to 1 vertical slope. The natural toe of slope for Lake Ontario can be considered to be at an approximate elevation of 75 metres.

2 HOW SHORELINE PROTECTION IS INCORPORATED INTO THE EROSION ALLOWANCE

In Halton Region, much of the shoreline has been hardened with various shoreline protection works such as seawalls, revetments or randomly placed stones. If a property has shoreline protection works in good working order (as determined by a Professional Engineer with experience in coastal processes and approved by Conservation Halton) and there is a 5 metre unobstructed access to and along those works (for maintenance and repair or replacement), Conservation Halton can provide up to 35 years credit to the average annual recession rate to a minimum of a 20 metre erosion allowance from the natural toe of slope (13 metres for Hamilton Harbour). Because access to and along shoreline protection works is required for long term maintenance and potential replacement of shoreline protection works, no reduction in the development setback will be considered without provision of that 5 metre access.

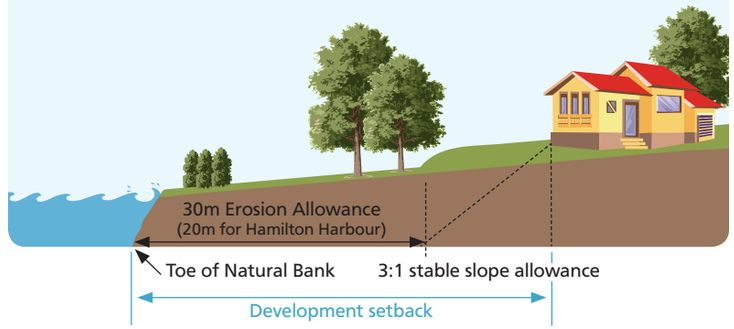
Should there be a need to construct new shoreline protection works, those works are required to be designed and their construction supervised and inspected by a Professional Engineer with experience in coastal engineering. The shoreline protection works must be designed according to established coastal engineering principles and be consistent with Provincial and Conservation Halton requirements.

3 DEFINING THE STABLE SLOPE ALLOWANCE

The stable slope allowance can also be further refined with a geotechnical investigation. The geotechnical investigation must be completed by a geotechnical engineer and follow Provincial and Conservation Halton requirements. A site-specific investigation of soil types may lead to a conclusion that the soil found on site (e.g. bedrock or other competent soils) are stable at a steeper inclination than 3 horizontal to 1 vertical. Once shoreline protection works are found to be in good working order with 5 metres access, and the stable slope allowance has been determined by a geotechnical investigation, staff can confirm the minimum Engineered Development Setback (E.D.S.).

1

Baseline Erosion Hazard Limit



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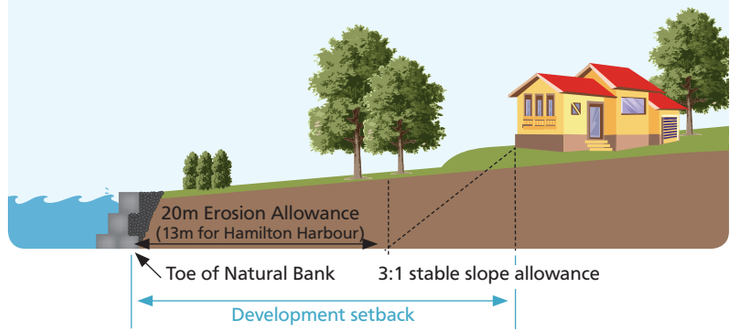
Development setback when shoreline protection works exist with 5m maintenance access



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Minimum development setback as determined by engineering studies (Engineered Development Setback, (E.D.S.)) with 5m maintenance access