Lake Simcoe Region Conservation Authority

Conservation Authorities Act and Ontario Regulation 41/24
Implementation Guidelines

Summary of Revisions

Revision Number	Date	Comments
0	September 1984	Adopted by the Board of Directors
1	December 1994	Approved by the Board of Directors – Resolution No. FA-94-29
2	April 17, 1998	Approved by the Board of Directors – Resolution No. BOD-18-98
3	July 23, 2000	Approved by the Board of Directors – Resolution No. BOD-145-00
4	January 28, 2005	Approved by the Board of Directors – Resolution No. BOD-01-05
5	April 28, 2006	Approved by the Board of Directors – Resolution No. BOD-72-06
6	March 23, 2007	Approved by the Board of Directors – Resolution No. BOD-36-07
7	October 26, 2007	Approved by the Board of Directors – Resolution No. BOD-129-07
8	November 28, 2008	Approved by the Board of Directors – Resolution No. BOD-140-08
9	February 25, 2011	Approved by the Board of Directors – Resolution No. BOD-29-11
10	June 24, 2011	Approved by the Board of Directors – Resolution No. BOD-98-11
11	March 23, 2012	Approved by the Board of Directors – Resolution No. BOD-03-12

Revision Number	Date	Comments
12	February 28, 2014	Approved by the Board of Directors – Resolution No. BOD-03-14
13	April 24, 2020	Approved by the Board of Directors – Resolution No. BOD-23-20
14	November 26, 2021	Approved by the Board of Directors – Resolution No. BOD-179-21
15	June 23, 2023	Approved by the Board of Directors – Resolution No. BOD-095-23
16	June 21, 2024	Approved by the Board of Directors – Resolution No. BOD-093-24

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Chapter 1: Introduction

1.1 Preamble

These Guidelines, as adopted by the Authority Board of Directors, provide general approaches to the processing of applications under the Conservation Authorities Act, and Ontario Regulation 41/24. They are the operating principles or the general norm for the implementation of the Legislation. For these reasons, these Implementation Guidelines shall not be construed as "law" enacted through provincial legislation or regulation. In doing so, innovative, and responsible approaches which best suit local conditions may be considered.

Once approved by the Authority's Board of Directors, this document will be implemented by Authority staff through the Authority's Development Services Program. It is envisioned that this document will be a valuable tool for the Authority Board of Directors, Authority staff, as well as the member municipalities, the land development community and private property owners.

1.2 The Role of Conservation Authorities in Water Resource Management

In Ontario, water and related land management is the responsibility of ***conservation authorities*** working in partnership with their member municipalities, provincial ministries, and agencies. A principle mandate of conservation authorities is to prevent the loss of life and property damage due to natural hazards, and to conserve and enhance natural resources.

Development located within **hazardous lands** places the health and safety of area residents and their properties at risk. This has been demonstrated by losses of life, mounting property damages, social disruptions and increasing losses of land where development has been located within hazardous areas.

The Conservation Authorities Act and Regulations made under the Act are key tools used to fulfil the mandate of Conservation Authorities by requiring the permission of the Authority for development within areas subject to Natural Hazards.

1.3 Organization of this Document

This document is organized according to the features regulated:

- Chapter 1 -- Introduction
- Chapter 2 -- Legislative Framework
- Chapter 3 -- Implementation
- Chapter 4 – General Guidelines

- Chapter 5 – Flooding Hazards
- Chapter 6 – Lake Simcoe Shoreline and Lakebed
- Chapter 7-- Erosion Hazard
- Chapter 8 – Development and Interference with Wetlands and Other Areas
- Chapter 9 -- Alteration to Watercourses
- Chapter 10 -- Hazardous Lands (addressing unstable soils and bedrock)
- Chapter 11 -- Glossary (definitions of terminology used in these guidelines)
- Chapter 12 -- References
- Chapter 13 – Appendices

It should be noted that where more than one type of regulated feature affects a given property, reference must be made to all relevant sections of the guidelines.

Definitions for terms shown in bold and italics can be found in the glossary (Chapter 11).

1.4 Using this Document

The guidelines contained within this document are complex and inter-connected. It is not uncommon for more than one natural hazard to apply to a property.

For this reason, this document should be read in its entirety and the relevant guidelines should be applied to each situation. The most stringent guideline shall always prevail.

There is no implied priority in the order to which the guidelines in this document appear.

1.5 The Lake Simcoe Watershed

The Lake Simcoe watershed, which is illustrated by Figure 1, is located in south-central Ontario. The watershed is approximately 3,307 square kilometres in area and is comprised of 20 member municipalities within the Regional Municipality of York, the Regional Municipality of Durham, the County of Simcoe, the City of Barrie and the City of Kawartha Lakes.

The *watershed* is drained by 35 tributaries, which account for approximately 4,225 kilometres of stream channel. The majority of these watercourses originate on the Oak Ridges Moraine and flow in a northerly direction, draining into Lake Simcoe. Lake Simcoe, which occupies approximately 20 percent (722 square kilometers) of the area of the watershed is the largest inland lake in southern Ontario, apart from the Great Lakes. Lake Simcoe is also part of the Trent Severn Waterway which connects Lake Simcoe to Georgian Bay.

The current population of the *watershed* is approximately 500,000. The *Growth Plan for the Greater Golden Horseshoe* (2020) projects a high rate of growth and intensification within the watershed's settlement area over the next 30 years. This rapid increase in population growth will result in increasing development pressures within the watershed. The watershed is very unique. In addition to its urban centres, the watershed also contains a significant component of the provincial Greenbelt which is comprised of natural and agricultural resources including the Holland Marsh. The watershed also supports a large recreational community along the shores of Lake Simcoe.

The wise use and management of our natural resources is essential to ensure a sustainable and healthy watershed which will continue to meet the needs of a growing population.

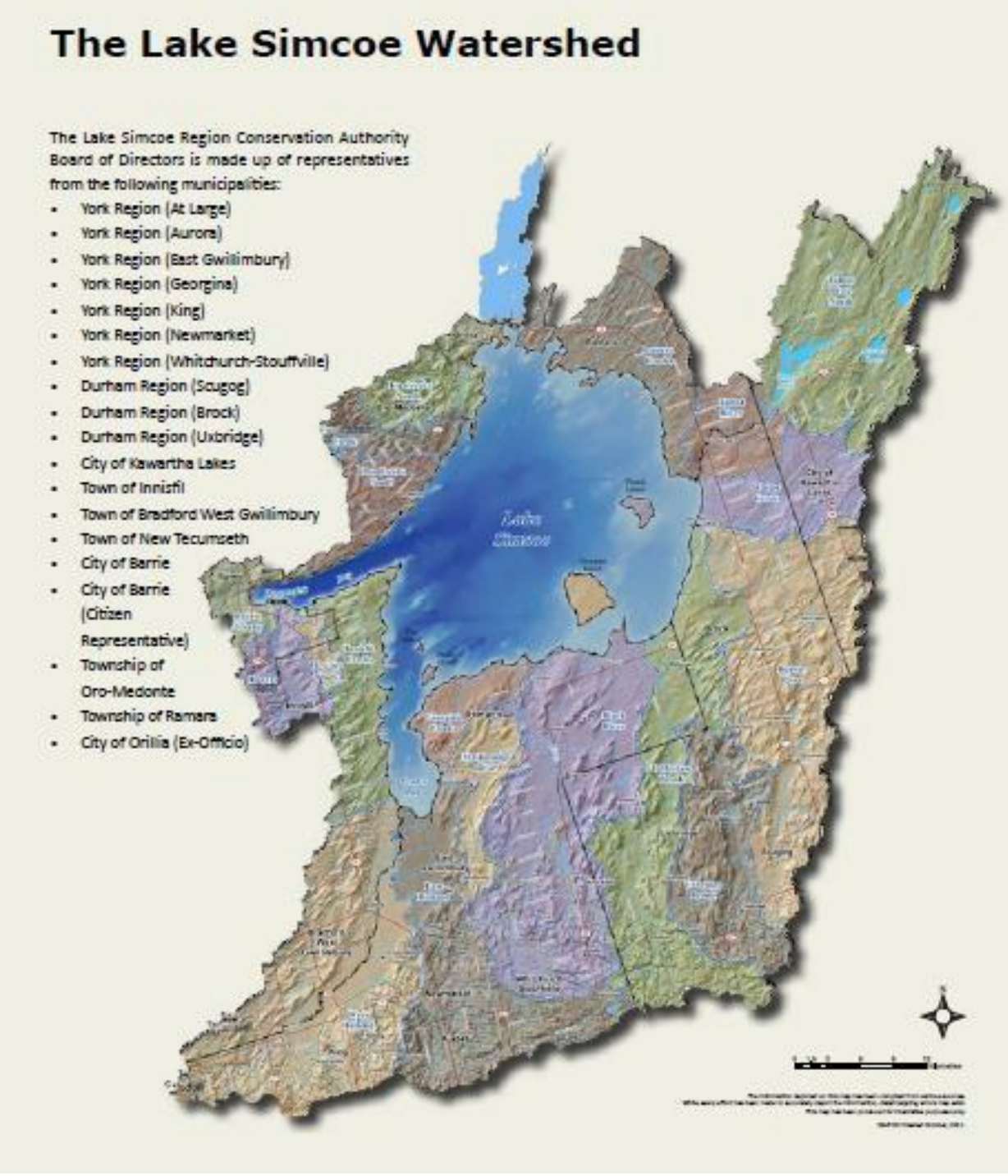


Figure 1: The Lake Simcoe Watershed

Chapter 2: Legislative Framework

2.1 The *Conservation Authorities Act* and Regulations

The *Conservation Authorities Act* which was enacted in 1946 is the enabling legislation that provides the legal basis for the creation of conservation authorities in Ontario. It was created in response to erosion and drought concerns, recognizing that these and other natural resource initiatives are best managed on a watershed basis.

In 1956, Section 28 of the *Conservation Authorities Act* was amended to empower conservation authorities to make regulations to prohibit the placing or dumping of fill in areas which were susceptible to flooding, in response to the loss of human lives and the economic losses associated with Hurricane Hazel (1954). These regulations were further amended in 1960 to prohibit or regulate the placing or dumping of fill in defined areas, where the in the opinion of a Conservation Authority, the control of flooding, pollution or the conservation of land may be affected. The *Conservation Authorities Act* was further amended in 1968, to allow the regulations to prohibit or control construction as well as alteration to waterways, in addition to the placement of fill.

In 1998, the *Conservation Authorities Act* was further amended as part of the *Red Tape Reduction Act* (Bill 25), to ensure that regulations under the *Act* were consistent across the province and complementary to other provincial legislation. To better reflect provincial direction and to strengthen the protection of public safety and the environment, the *Conservation Authorities Act* was modified to enable conservation authorities to enact the Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation (Ontario Regulation 97/04).

In subsequent years numerous amendments have been made to Section 28 of the Act and associated Regulations. Ontario Regulation 686/21, among other provisions, requires:

An authority shall provide programs and services to ensure that the authority performs its, functions and responsibilities to administer and enforce the provisions of Part VI and VII of the CA Act and any regulations made under those Parts. Programs and services related to the risk of natural hazards include:

- Comment re applications, proposals (ss. 6. (1) and ss. 6. (2))
- Plan Review, comments (ss. 7 (1) and ss. 7 (2))
- Administering and enforcing the Act (s 8)

2.1.1 Lake Simcoe Protection Act and Plan

In addition to any other programs and services it is required to provide under the Conservation Authorities Act and this Regulation, the Lake Simcoe Region Conservation Authority is responsible to provide the following programs and services related to Plan Review and Permitting in respect of its duties, functions and responsibilities under the *Lake Simcoe Protection Act, 2008*:

1. Programs and services to ensure the authority complies with its duties under subsection 6 (9) of the *Lake Simcoe Protection Act, 2008* in respect of the decisions the authority makes related to permissions required under this Act.
2. review and comment on proposals made under other Acts that are circulated to the authority for the purpose of determining the proposal's impact on the Lake Simcoe Protection Plan and the Lake Simcoe watershed.

2.1.2 Objects of a Conservation Authority

Section 20 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27 outlines the objects of a Conservation Authority:

The objects of an authority are to establish and undertake in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development, and management of natural resources other than gas, oil, coal, and minerals.

2.1.3 Powers of a Conservation Authority

For the purposes of accomplishing its objects, an authority has power, as outlined in Section 21(1) of the Conservation Authorities Act.

2.1.4 Permit Applications Pursuant to Section 28.1.2, Minister's Zoning Order

Through the enactment of Bill 229, amendments to the Conservation Authorities Act include Section 28.1.2, requiring that permission be issued by a Conservation Authority if the development project has been authorized by a Minister's Zoning Order (MZO) and is outside the Greenbelt.

Under Section 28.1.2, Conservation Authorities cannot refuse permission despite anything under Section 28 or in a regulation under Section 28 (1) or 28.1 (1). However, conditions may be applied to a permit to mitigate any impacts of the development project, if they do not conflict with the terms of the zoning order.

In addition to a permit, the Act requires that the Authority enter into an Agreement with the permit holder that sets out requirements that the permit holder must complete or satisfy to

compensate for ecological impacts or any other impacts that could result from the development project.

Where a loss of wetland and/or associated vegetation protection zone(s) within regulated areas would result from the permit, compensation for ecological impacts will be determined in accordance with Authority's Ecological Offsetting Policy.

No development may commence until the Agreement has been fully executed.

2.2 Ontario Regulation 41/24 Prohibited Activities, Exemptions and Permits

Ontario Regulation 41/24 was approved on April 1, 2024. The Lake Simcoe Region Conservation Authority regulates all components noted in s. 28 of the Act as well as those within the Regulation that are within our jurisdiction. The Act as well as the Regulation are used in the administration of the permit process.

2.2.1 Regulation Limit

The CA Act prescribes areas and activities that are prohibited e.g., activities and interference provisions: activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland; and development activities in areas that are within the authority's area of jurisdiction and are hazardous lands and wetlands.

The Regulation prescribes in more detail the areas where development is prohibited in or adjacent to river or stream valleys, adjacent or close to the shoreline of Lake Simcoe, and areas within 30 metres of a wetland.

Areas regulated by the Authority under Ontario Regulation 41/24, have been mapped in accordance with the Regulation and guidelines provided by the Ontario Ministry of Natural Resources and Conservation Ontario.

An example of the mapping prepared by the Authority to illustrate the extent of the regulated area is shown by Figure 2. It should be noted that the Regulation is "text-based". In the case of a discrepancy between the mapping and what is observed in the field, the text of the regulation shall prevail over the areas shown as being regulated on the mapping.

This mapping has been prepared in conformity with the *Guidelines for Developing Schedules of Regulated Areas (Conservation Ontario, 2005)* and is regularly updated to reflect changes as new information becomes available and is posted on the Authority website (www.lsrca.on.ca) and provided to the Authority's member municipalities on a regular basis.

2.2.2 Activities Which Require Written Permission

The following work requires written permission within an area which is regulated by the Lake Simcoe Region Conservation Authority:

(a) the construction, reconstruction, erection or placing of a building or structure of any kind;

(b) changes that would alter the use or potential use of a building or structure;

(c) increase the size of a building or structure or increase the number of dwelling units in the building or structure;

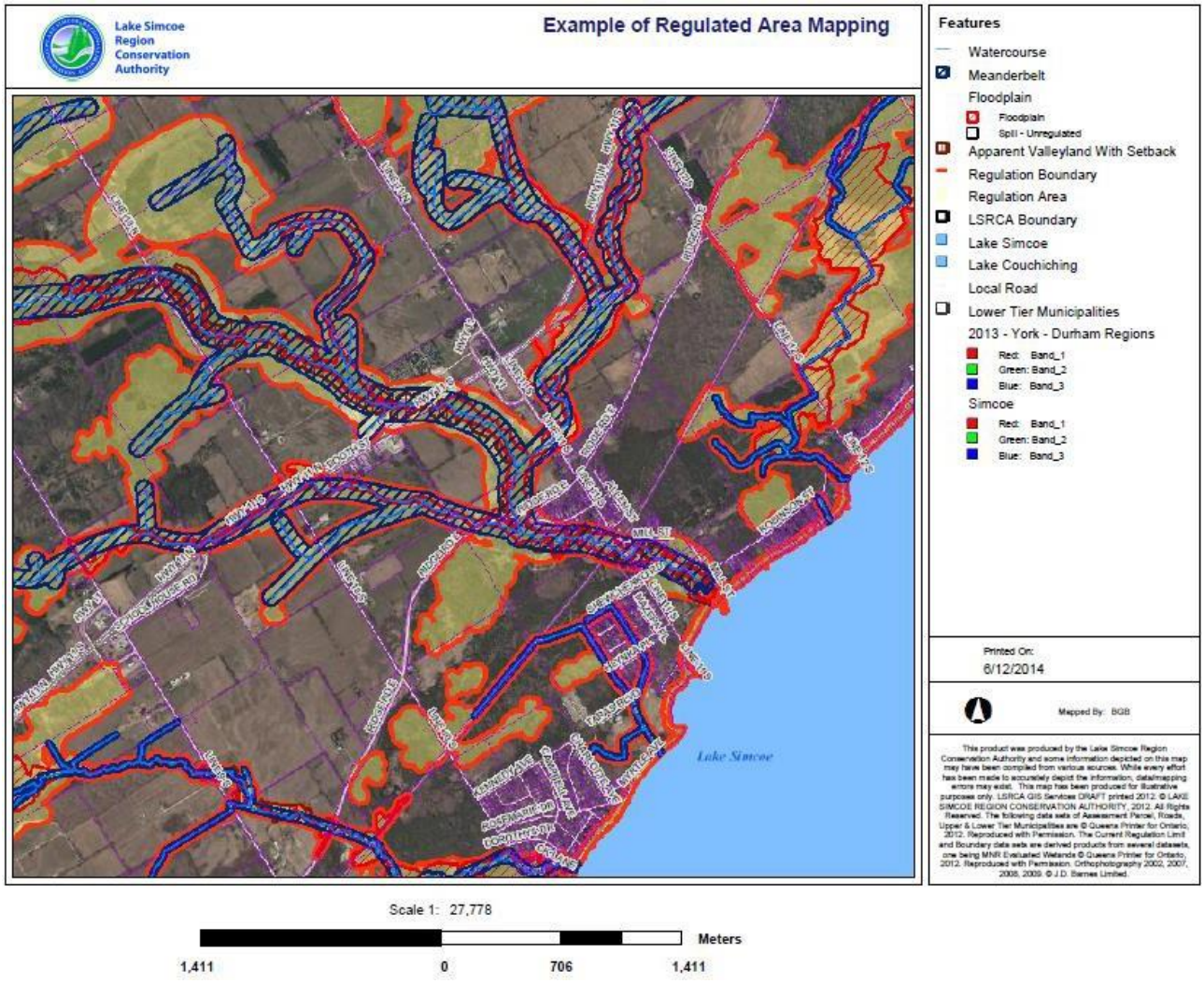
(d) site grading;

(e) the temporary or permanent placing, dumping or removal of any material originating on the site or elsewhere;

(f) the straightening, changing or diverting or interfering with the existing channel of a river, creek, stream or watercourse; and

(g) changing or interfering with a wetland.

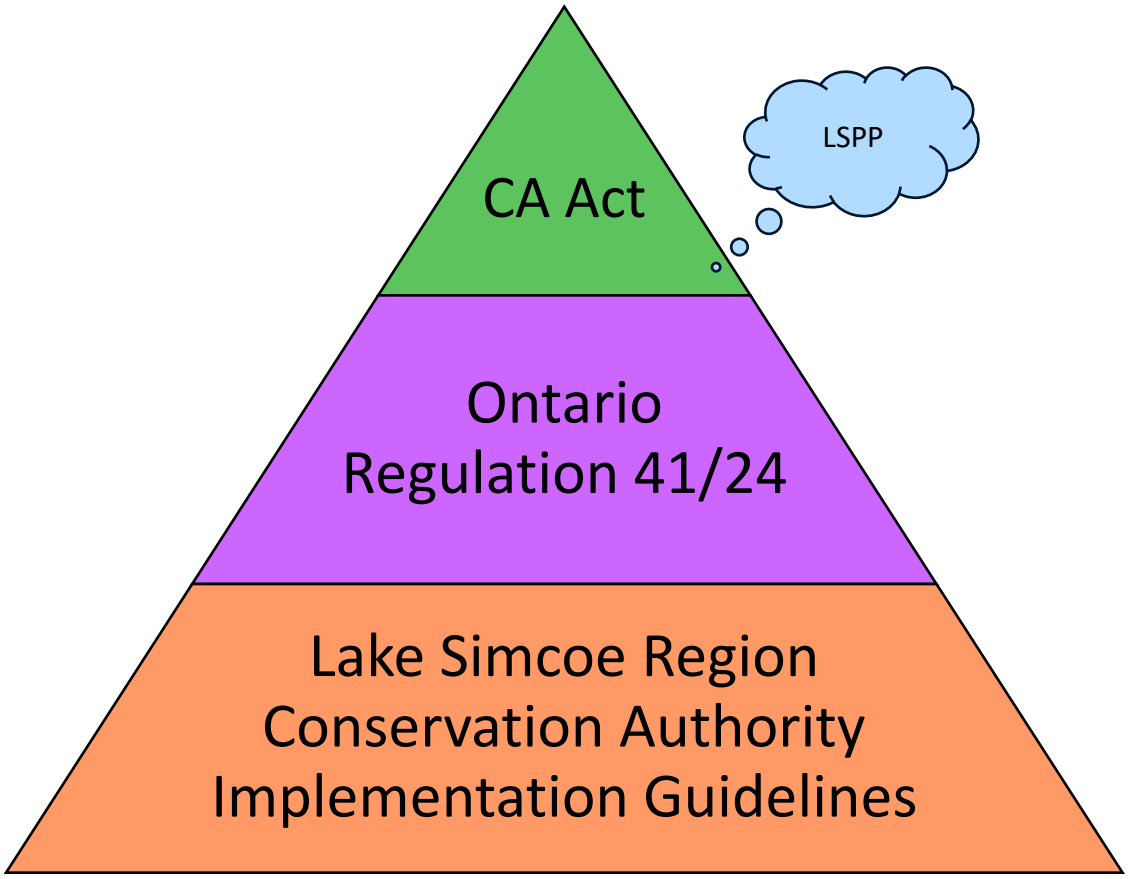
Figure 2: Example of Regulated Area Mapping for the Authority Watershed



2.3 Guidelines for the Implementation of Conservation Authorities Act and Regulation 41/24.

The guidelines as outlined in this document have been prepared in order to provide a decision-making framework for the review of applications. In general the guidelines ensure clarity and transparency on how the Authority administers and implements the legislation.

Figure 3: Legislative Context of the Authority Guidelines Relative to the Conservation Authorities Act and Ontario Regulation 41/24.



2.4 Planning First Philosophy

The guidelines contained within this document have been developed to reflect the intent of the Provincial Policy Statement and all other related provincial and municipal policies related to development adjacent to the shoreline of lakes, rivers and streams.

The Authority shall encourage that any environmental matter be addressed for a development proposal under the *Planning Act*, and/or approved under the *Environmental Assessment Act*/*Class Environmental Assessment Act* process in advance of submitting an application for approval under the *Conservation Authorities Act*.

2.5 Program Objectives

When implementing the guidelines in this document, the Authority will provide an objective, impartial and consistent review of all applications submitted under this Regulation. The objectives of the Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation program are to:

(a) prevent loss of life on hazard lands;

(b) minimize property damage and social disruption resulting from natural hazards;

(c) minimize public and private expenditures for emergency operations, evacuation, disaster relief and restoration;

(d) prevent development within hazardous lands which in the future may require expensive protection measures;

(e) ensure that development does not aggravate existing hazards or create new hazards;

(f) prevent the filling and draining of wetland areas;

(g) reduce soil erosion and sedimentation from development and other land use activities;

(h) require mitigating measures be undertaken for works within regulated areas, which singly or cumulatively may cause an increase in flooding, erosion or adversely affect wetlands;

(i) encourage the conservation of land through the control of development activities;

(j) protect key natural heritage and key hydrologic features in accordance with the Lake Simcoe Protection Plan;

(k) reduce damage to property due to water related hazards.

Chapter 3: Implementation

This section is intended to assist with the implementation of the objectives and guidelines contained within this document.

3.1 General

3.1.1 Decisions regarding development proposals will be made based upon:

(a) the best information available at the time of the decision;

(b) guidelines, policies and engineering practices which are accepted at the time of the decision.

3.1.2 This document will be posted on the Authority's website (www.lsrca.on.ca) to serve as a source of information for landowners, developers, municipalities, real estate agents and other stakeholders.

3.1.3 This document should be read in its entirety and all relevant policies should be applied to each situation.

3.1.4 Authority staff will undertake a five-year review of this document to evaluate its effectiveness. Any recommended changes will require the approval of the Authority's Board of Directors.

3.1.5 The guidelines in this document guide decisions made by the Authority. It is the responsibility of the applicant to determine the requirements of other agencies and obtain all necessary approvals from those agencies.

3.1.6 Applicants are encouraged to pre-consult with Authority staff prior to submitting their applications so that issues and requirements can be addressed.

3.2 Consultation

In 2014 the Authority undertook a comprehensive public consultation process associated with the development of this document which was comprised of multiple posting the draft guidelines on the Authority website, public open houses, municipal consultation, notices in watershed newspapers and municipal offices as well as a special meeting of the Authority Board of Directors.

The guidelines have been revised following the receipt of comments where appropriate. These guidelines have also been reviewed by the Authority's legal counsel for a legal opinion.

As part of the 2021 updates, the Authority consulted with BILD and circulated the draft guidelines for review and comments. We presented our changes to BILD on September 29, 2021, and received a letter of acknowledgement on October 14, 2021.

3.3 Monitoring

These guidelines will be reviewed on an on-going basis to evaluate their effectiveness. This document may be amended from time to time in order to reflect changes in legislation, regulations and policies at the federal and provincial levels.

Amendments of these guidelines may also occur as a result of changing programs and practices at the Authority.

Significant changes to these guidelines will occur through the policy formulation process, with final approval by the Authority Board of Directors.

Minor technical amendments that do not alter the intent of the procedures or policy objectives contained within these guidelines (e.g., correcting ambiguous language) may be made at the staff level without approval by the Board of Directors. The Board of Directors may consider amendments to these "Guidelines" at any time.

These guidelines will be subject to a comprehensive review on a five-year basis to evaluate its effectiveness and fairness. This review will involve public consultation.

3.4 Complete Application Requirements

An application for a permit must be made by a person having an interest in the land (i.e., owner, purchaser with owner's knowledge and permission, or an authorized agent).

All applications are reviewed on an individual basis considering unique criteria for that specific development and site-specific hazards. Submissions are required to include the mandatory information listed below. In addition, there are a number of potential technical information requirements that may be required depending on the scope of the proposal. Additional potential requirements are outlined in the Authority's Checklist for complete submissions Appendix "D".

3.4.1 Pre-Consultation

Pre-consultation with the Authority is strongly encouraged to help streamline the review process. Pre-consultation provides an opportunity for the CA and the applicant to discuss the proposal; for the CA to determine the application type; to notify the applicant of complete application requirements for review and approval of the application; to proactively discuss at the beginning of the process any fundamental issues that might prevent approval; and to outline the CA review and approval process, including anticipated timelines to process the application.

3.4.2 Mandatory Permit Application Requirements (all applications):

a. a plan of the area showing the type and location of the proposed development activity or a plan of the area showing plan view and cross-section details of an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse, or change or interfere with a wetland;

b. the proposed use of any buildings and structures following completion of the development activity or a statement of the purpose of an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse or to change or interfere with a wetland;

c. the start and completion dates of the development activity or other activity;

d. a description of the methods to be used in carrying out an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse, or change or interfere with a wetland;

e. the elevations of existing buildings, if any, and grades and the proposed elevations of any buildings and grades after the development activity or other activity;

f. drainage details before and after the development activity or other activity;

g. a complete description of any type of fill proposed to be placed or dumped;

h. a confirmation of authorization for the proposed development activity or other activity given by the owner of the subject property, if the applicant is not the owner;

i. any other technical information, studies or plans that the authority requests including information requested during pre-submission consultations between the authority and the applicant;

j. Permit application form; and,

k. Appropriate fee.

Works that involve substantial site development should be prepared using the services of professionals. In all cases, it is necessary that the information provided with the application is clear as to the work proposed and is sufficient to allow Authority staff to complete a technical review.

Authority review times are in accordance with the legislative timelines prescribed.

Chapter 4: General Guidelines

Please be reminded that this document should be read in its entirety, and the relevant guidelines should be applied to each situation. The most stringent guideline shall always prevail.

The following general guidelines apply to all activities within areas regulated by the Conservation Authority. These guidelines as well as the more specific guidelines found in Sections 5, 6, 7, 8, 9 and 10 should be applied to applications made under the Conservation Authorities Act and Ontario Regulation 41/24.

There is no implied priority in the order to which the guidelines in this document appear.

4.0.1 Development, interference with a wetland or alteration to a watercourse or shoreline within a regulated area may be permitted where it can be demonstrated to the satisfaction of the Authority through the submission of the appropriate technical reports, studies, assessments, drawings and other documents as required by the Authority that:

(a) the development proposal has demonstrated, to the satisfaction of Authority staff, that there will be no negative impacts to the control of flooding, erosion, dynamic beaches or unstable soils or bedrock;

(b) the risk to public health and safety is not increased;

(c) existing hazards are not aggravated and new hazards are not created;

(d) there is no other location for the activity outside of the natural hazard;

(e) there are no adverse hydraulic or hydrologic impacts on rivers, creeks, streams, or watercourse;

(f) there are no adverse impacts on the natural coastal processes of the shoreline of Lake Simcoe;

(g) negative or adverse impacts on wetlands shall be avoided;

(h) the proposal conforms with the applicable policies of the Lake Simcoe Protection Plan (LSPP);

(i) access for emergency works and maintenance of flood and erosion control works will be provided;

(j) sedimentation and erosion during construction and post-construction shall be minimized using best management practices which are appropriate for the scale and scope of the project; and,

(k) works are designed, constructed, repaired and maintained in accordance with accepted engineering principles and approved engineering standards or to the satisfaction of the Authority, whichever is applicable based upon the scale and scope of the project.

4.0.2 The Authority will not permit modifications to hazardous lands, watercourses, wetlands to create additional useable area or to accommodate or facilitate development or intensification except under the following circumstances:

(a) the works would result in permanent remediation and a reduction in risk and improve public safety.

4.0.3 In general, all new development shall be setback a minimum distance of 30 metres from the normal high watermark of Lake Simcoe and the edge of low flow channels of all watercourses. Additionally, where there is a defined top of bank/slope, development shall generally be located no closer than 15 metres from the top of bank/slope. Exceptions may be permitted within existing settlement areas or where lot sizes are restricted.

4.0.4 In accordance with the LSPP, a vegetation protection zone comprised of vegetation which is native and non-invasive to the watershed shall be maintained or established as a condition of approval.

4.0.5 Notwithstanding the guidelines in Section 4.0.1, development shall not be permitted within hazardous lands and hazardous sites where the use is:

(a) an institutional use including hospitals, long-term care homes, retirement homes, pre-schools, school nurseries, day cares and schools;

(b) an essential emergency services such as that provided by fire, police and ambulance stations and electrical substations; or

(c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances.

4.0.6 Renewable energy projects made under the Green Energy Act which are proposed in areas regulated by the Authority, will generally not be permitted within hazardous lands.

4.1 Exceptions (Ontario Regulation 41/24)

The following activities and works are described as exceptions in Section 5 of Ontario Regulation 41/24.

(a) the construction, reconstruction, erection or placement of,

(i) a seasonal or floating dock that,

(A) is 10 square metres or less,

(B) does not require permanent support structures, and

(C) can be removed in the event of flooding

(ii) a rail, chain-link or panelled fence with a minimum of 75 millimetres of width between panels, that is not within a wetland or watercourse,

(iii) agricultural in-field erosion control structures that are not within and that do not have any outlet of water directed or connected to a watercourse, wetland or river or stream valley,

(iv) a non-habitable accessory building or structure that,

(A) is incidental or subordinate to the principal building or structure,

(B) is 15 square metre or less, and

(C) is not within a wetland or watercourse, or

(v) an unenclosed detached deck or patio that is 15 square meteres or less, is not placed within a watercourse or wetland and does not utilize and method cantilevering.

(b) the installation of new tile drains that are not within a wetland or watercourse, within 30 metres of a wetland or within 15 metres of a watercourse, wetland or river or stream valley, or the maintenance or repair of existing tile drains;

(c) the installation, maintenance or repair of a pond for watering livestock that is not connected to or within a watercourse or wetland, within 15 metres of a wetland or a watercourse, and where no excavated material is deposited with an area where subsection 28 (1) of the Act applies;

(d) the maintenance or repair of a driveway or private lane that is outside of a wetland or the maintenance or repair of a public road, provided that the driveway or road is not extended or widened and the elevation, bedding materials and existing culvers are not altered;

(e) the maintenance or repair of municipal drains as described in, and conducted in accordance with the mitigation requirements set out in the Drainage Act and the Conservation Authorities Act Protocol, approved by the Minister and available on a government of Ontario website, as it may be amended from time to time; and,

(f) the reconstruction of a non-habitable garage with no basement, if the reconstruction does not exceed the existing footprint of the garage and does not allow for a change in the potential use of the garage to create habitable space.

4.2 General Guidelines for Fill Placement, Fill Excavation and Lot Grading

The following guidelines apply to the placement of fill (not exceeding 250 m^3), the excavation of fill and the grading of the ground surface using fill that originates on a property.

4.2.1 In general, the placement of fill and lot grading shall not be permitted within areas regulated, except in accordance with policy 4.0.1;

4.2.2 The placement of fill in hazard lands and wetlands and watercourses is prohibited if the proposed fill material is:

(a) slurry or other material from vacuum excavation (i.e., “vac trucks”);

(b) Slurry from directional boring, drilling or other activities;

(c) concrete slurry or related products and by-products;

(d) excavated material from the cleanout of storm water management ponds;

4.2.3 Notwithstanding Policy 4.2.1, the Authority may grant permission for the placement of fill (not exceeding 250 m^3) and lot grading within a regulated area provided that:

(a) the placement of fill does not affect the control of flooding, erosion, dynamic beaches, unstable soils or bedrock;

(b) under some circumstances (e.g. flood plains associated with rivers and streams) an incrementally balanced cut and fill operation, based on 0.3 metre elevation increments, may be considered to compensate for losses in flood storage capacity which would result from the placement of fill within an area which is susceptible to flooding;

(c) only clean fill may be placed which is in conformity with all relevant Ontario Ministry of the Environment guidelines and requirements such as Ontario Regulation 347 and Ontario Regulation 461/05.

The Authority may require the submission of soils report prepared by a qualified environmental/geotechnical engineer and/or Professional Geoscientist for each location where fill is being imported from.

The soils report shall consist, as a minimum, of the following:

- the municipal address of the site where soil is originating from;
- conformity with all relevant Ontario Ministry of the Environment guidelines and requirements such as Ontario Regulation 347 and Ontario Regulation 461/05.

(d) fill placement and lot grading activities for the installation of the septic systems and tile beds are required to be in accordance with Part 8 of the Ontario Building Code Act;

(e) the placement of fill, excavations and lot grading activities may be seasonally restricted and subject to a specific time frame;

(f) following the completion of the fill placement or grading operations, the landowner/applicant may be required to submit a survey to show that the finished grades are in conformity with the approved plans. This survey shall be prepared and certified by a Professional Engineer or an Ontario Land Surveyor and must be referenced to geodetic datum. This certification must be received within 30 days following the completion of the fill placement.

4.3 Large Scale Fill Placement Guidelines

Note: These guidelines do not apply to mass earth-moving works associated with a major project such as multiple subdivisions directly adjacent to each other, where fill is being moved from one property to a nearby property as part of an overall grading scheme approved by the Authority or to structural fill placement for road construction.

4.3.1 In general, large scale fill placement (volume exceeds 250 m^3) within areas which are regulated by the Lake Simcoe Region Conservation Authority shall not be permitted except in accordance with the policies 4.3.2 through 4.3.14:

4.3.2 It is the practice of the Authority to maintain the function of natural hazard lands. As such, large scale filling will be prohibited in the following areas:

(a) lands susceptible to flooding, erosion, or steep slopes;

(b) key hydrologic features such as wetlands as defined by the provincial plans;

4.3.3 minimum vegetation protection zones as defined by the provincial plans. For the purposes of this policy, provincial plans include the Lake Simcoe Protection Plan, Large scale filling will be prohibited in the following areas:

(a) the shoreline of Lake Simcoe;

4.3.4 The placement of large-scale volumes of fill in an area Regulated by the Conservation Authority is prohibited if the proposed fill material is:

(a) slurry or other material from vacuum excavation (i.e. “vac trucks”);

(b) Slurry from directional boring, drilling or other activities;

(c) concrete slurry or related products and by-products;

4.3.5 Studies may be required in support of any application to place large scale volumes of fill in the following areas:

(a) within 15 metres of the erosion hazard limit of Lake Simcoe and its tributaries;

(b) within 30 metres of a key natural heritage and hydrologic feature;

(c) The study must be prepared by a qualified professional to the satisfaction of the Authority and municipality. The Terms of Reference is required to be established by the Authority prior to its preparation.

4.3.6 Formal pre-consultation with Authority staff is recommended prior to an applicant seeking to obtain a permit for large scale fill placement in order to outline any and all requirements, material, drawings, reports, etc. for the application. Applications for large scale fill placement will not be considered without formal pre-consultation.

4.3.7 Any application for large scale fill placement must include a plan of survey prepared by a Professional Engineer or an Ontario Land Surveyor showing the subject property and the specific location(s) on the subject property where the filling activities are being proposed.

The plan shall show a minimum of the following:

(a) location of subject property including property lines, north arrow and nearest roadways/intersections;

(b) existing topographic detail and proposed elevations within and adjacent to the area where the placement of fill is being proposed;

(c) the plan must show the subject property and each fill envelope being proposed.

(d) the total fill quantity in cubic metres;

(e) slopes are not to exceed a gradient of 3 (horizontal): 1 (vertical);

(f) sediment and erosion control measures;

(g) pre- and post- filling drainage patterns;

(h) the location of all environmentally sensitive features that may include, but not be limited to the following: watercourses (i.e. ditches, streams, rivers, lakes), wetlands, valleys/valley walls, steep slopes, hydrogeological sensitive features (e.g. springs, seeps, etc.).

(i) A setback/radius of no less than 30 m around the perimeter of each of the aforementioned features must be shown on the plan;

(j) the Authority's regulatory limit as prescribed;

(k) the limit of the regulatory flood plain of a watercourse with a 30 m setback;

(l) other known site features and structures such as access roads, culverts, utilities, poles, pavement, curbs, etc.

(m) restoration details (i.e., detail site stabilization measures such as topsoil, seed, sod, hydro-seed and associated timing, etc.);

4.3.8 For sites with proposed large scale **fill** placement in excess of 250m^3 a soils report prepared by a qualified environmental/geotechnical engineer and/or Professional Geoscientist shall be submitted for each location where fill is being imported from. The soils report shall consist, as a minimum, of the following:

(a) the municipal address of the site where soil is originating from;

(b) conformity with all relevant Ontario Ministry of the Environment guidelines and requirements such as Ontario Regulation 347 and Ontario Regulation 461/05.

4.3.9 The Authority, at its discretion, may ask and require a formal "chain of custody" process in which the applicant will implement a "bill of lading" process from the fill material source to the fill placement site. If required by the Authority, this process will be the responsibility of the applicant to implement after approval by the Authority and will be listed as a condition of the permit.

4.3.10 Prior to the issuance of a permit by the Authority, it shall be the responsibility of the authorized agent/owner to provide written authorization/consent from the respective municipality in which the proposed fill site is located. Municipal interests may include:

(a) the condition of municipal roadways and site entrance;

(b) haul routes from the fill removal location to the proposed fill site location;

(c) mud mat, dust control schematics for the fill site and fill removal location;

4.3.11 Where proposed large scale **fill** site locations are Regulated by the Conservation Authority and municipal fill by-laws under the Municipal Act, the proponent shall be responsible for the submission of comprehensive and integrated plans/reports for both the Authority and municipality.

4.3.12 The specific policies and/or restrictions contained within this policy do not apply to the movement and placement of material associated with site grading required for approved projects such as subdivisions or other related development if the material originates within the development boundaries. Additional fill material that may be required to be added to the development site from another would be subject to the policies and/or restrictions contained within this policy;

4.3.13 Following the issuance of a **permit**, Authority Enforcement staff will conduct routine site inspections of large-scale **fill** sites in order to ensure compliance with permit conditions. It will be the responsibility of the owner and/or authorized agent to ensure that a final inspection with enforcement staff is coordinated. A final site inspection and review of permit conditions shall be completed no later than 30 days to the expiration date on the permit;

4.3.14 **Permits** issued by the Authority may be subject to the following conditions:

(a) following the completion of the fill placement and grading operations, the landowner/applicant may be required to submit a survey to show that the finished grades are in conformity with the approved plans. This survey shall be prepared and certified by a Professional Engineer or an Ontario Land Surveyor and must be referenced to geodetic datum. This certification must be received within 30 days following the completion of the fill placement;

(b) a specified limit of the depth of fill material that is permitted;

(c) a requirement for testing of fill and/or ground water to ensure that the material is inert and satisfies all Ministry of Environment guidelines and requirements for fill material.

Chapter 5: Flooding Hazards

5.1 The Regulatory Flood Standards for the Authority Watershed

Each **watershed** in Ontario has a **regulatory flood standard** used to define flood plain limits for regulatory purposes. The **flood standards** used to determine the flood plain limits for regulatory purposes are from the following storm centered events:

(a) the Hurricane Hazel storm (1954);

(b) the Timmins storm (1961);

(c) the 100-year storm;

(d) an observed flood event, subject to approval by the Minister of Natural Resources. Figure 4 illustrates the flood hazard criteria zones of Ontario in relation to the watershed boundaries of conservation authorities.

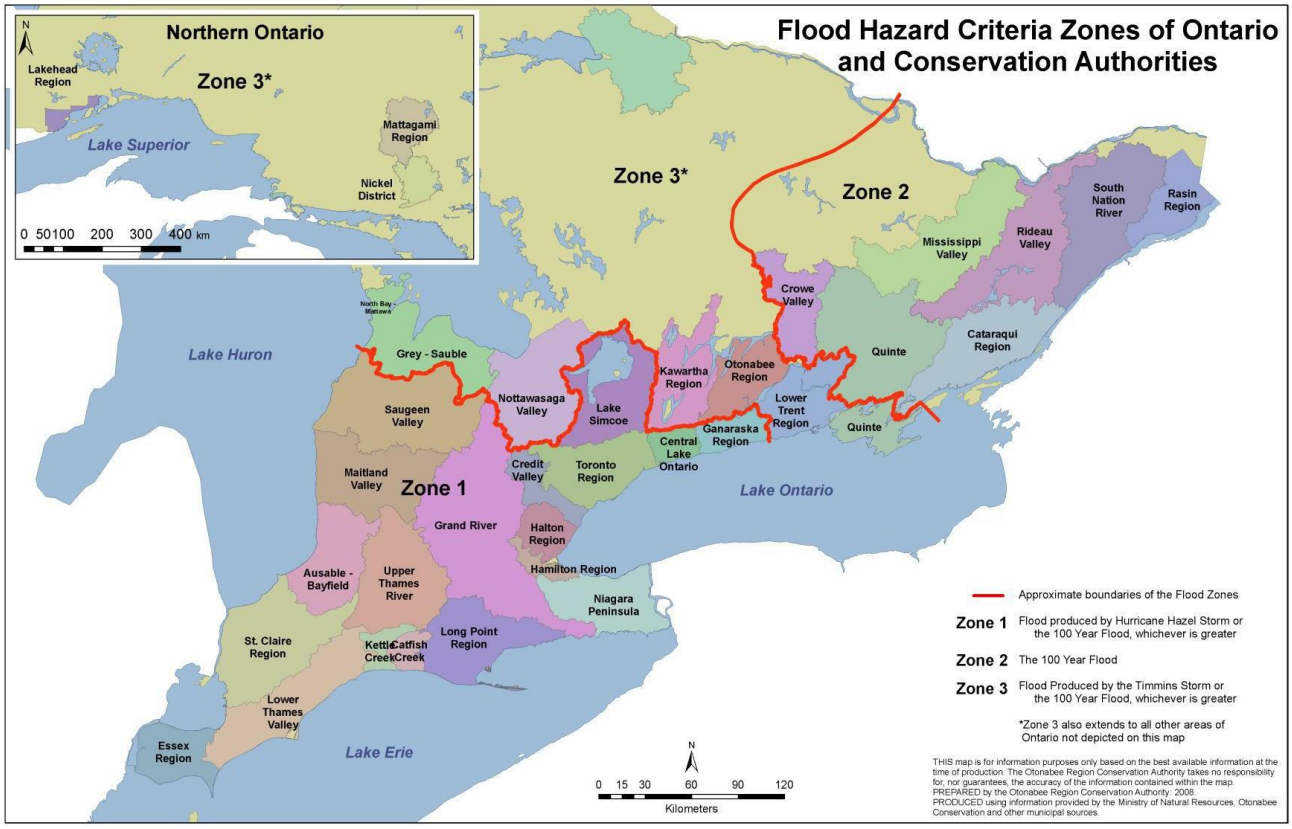
The flood event standards that apply in the Lake Simcoe watershed are outlined in Table 1 below.

Table 1: Summary of the Regulatory Flood Standards applied to the Lake Simcoe Watershed

Regulatory Flood Standard	Water Body Within Lake Simcoe Watershed
Hurricane Hazel Storm	Riverine Tributaries
Timmins Storm	Talbot River System
100-year Storm	Specific Watercourse Within the City of Barrie
100-year Flood Wind Setup/Wave Uprush	Lake Simcoe

The Regulatory flood event is considered the greater of the flood events and the most restrictive observed flood level applies.

Figure 4: Flood Hazard Criteria Zones of Ontario



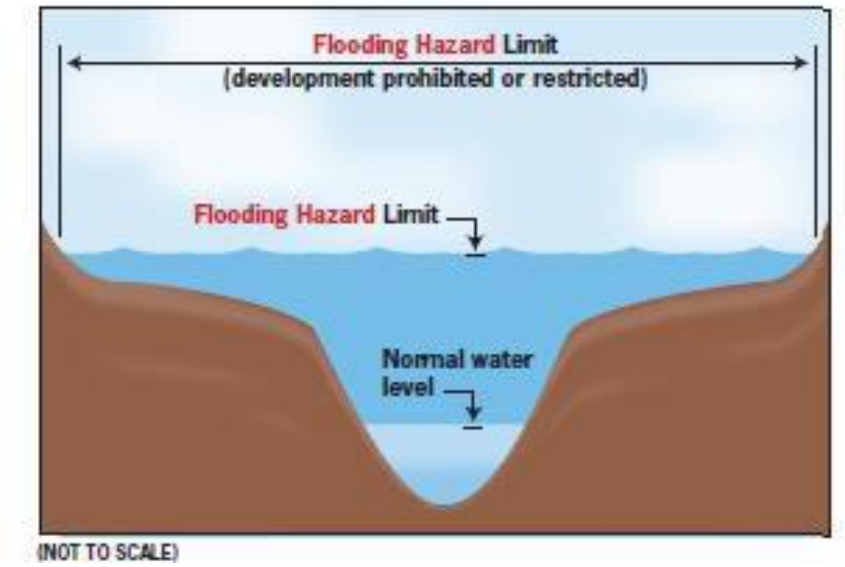
Source: OMNR, 2001(a)

5.2 Flood Hazard Management Approaches

The Authority currently acknowledges the following approaches to flood hazard management:

(a) One Zone Concept whereby the entire **flood plain** or the entire **flooding hazard limit** defines the **flood way** as shown by Figure 5. The one **zone concept** is the preferred approach for the management of flooding hazards within river and stream systems as it providesthe most cost-effective means of minimizing potential threats to life and risks of property damage and social disruption. In general, development or site alterations within the boundaries of the regulatory flood level are restricted within areas of the one zone concept. All development within this area should be prohibited or restricted to those structures which by their nature are to be located within this area, flood/erosion control works, or where appropriate, minor additions or passive, non-structural uses which do not affect flood flows.

Figure 5: Flooding Hazard Limit for One Zone Concept



Source: (OMNR, 2001a)

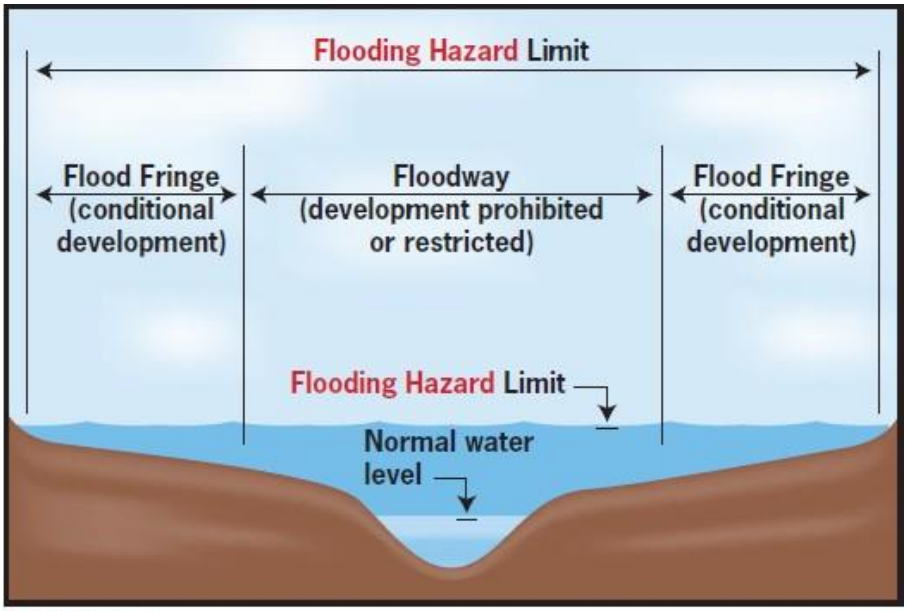
(b) Two Zone Concept recognizes that the flood plain can be divided into two zones: the flood way and the flood fringe, as shown by Figure 6.

Where the two-zone concept is applied, the flood fringe is the outer portion of the flood plain. Flood depths and velocities are usually less severe within the flood fringe than they would be within the flood way. As a result, development may be permitted within the flood fringe subject to certain established standards and procedures.

The flood way is defined as the inner portion of the flood plain that is characterized by deeper, faster moving water during a flood event. The flood way is the more hazardous part of the flood plain and development and site alteration are generally not permitted within this area.

The two-zone concept is not intended to be applied throughout the entire watershed but limited to selective areas. Within the Lake Simcoe Region Watershed currently, part of Innisfil Beach Road is the only recognized two-zone flood area.

Figure 6: Flooding Hazard Limit for Two Zone Concept



Source: (OMNR, 2001a)

(c) Special Policy Areas are specifically identified areas that are not protected to the minimum provincial standard. The area must be a viable community that feasibly cannot be protected from the risk of flooding. The concept of special policy area (SPA) status is a means whereby development may be permitted within the flood plain in certain designated areas. This concept is usually imposed in areas where communities have historically developed within the flood plain and where strict adherence to flood-proofing requirements would jeopardize the maintenance of community viability. Municipalities may apply for special policy area status, in accordance with established procedures. The Ministries of Natural Resources and Municipal Affairs, in consultation with the Conservation Authority, would review and approve or refuse applications for special policy area status.

5.2.1 Schomberg Community Plan Special Policy Area

Within the Authority Watershed, a portion of the Community of Schomberg, in the Township of King was designated as a Special Policy Area on July 2, 1998. The area to which this SPA applies is generally described as including the properties east and west of Main Street, north of Church Street and to the south of Western Avenue. A copy of Amendment No. 47 to the Official Plan for the Township of King designating the Schomberg Community Plan Special Policy Area can be found in Appendix "C".

The permitted uses and policies as well as the boundaries and the extent of the lands affected by the Special Policy Area designation is included.

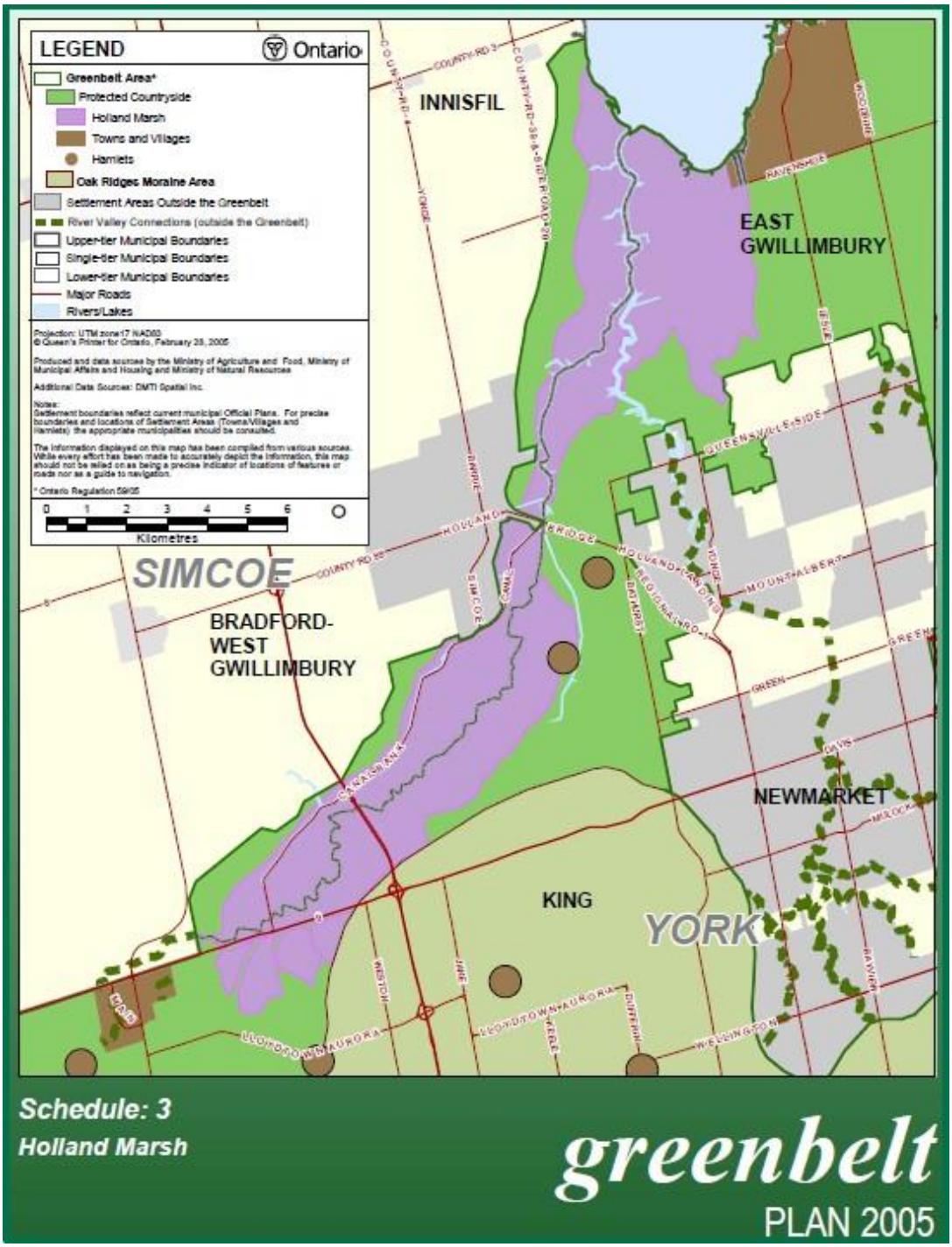
5.2.2 The Holland Marsh Specialty Crop Area

The Holland Marsh is a 2,915 hectare (7,200 acres) low-lying area of organic (muck) soils that are associated with the West Holland River. The Holland Marsh is located within the northern portion of the Region of York (Township of King, Town of East Gwillimbury) and the southern portion of the County of Simcoe (Town of Bradford West Gwillimbury) as shown by Figure 7.

The Marsh was reclaimed for agriculture as a result of a substantial drainage and land clearing operation which began in 1925. The work saw the excavation of a canal and the construction of dykes 28 km in length and 2 metres in height around the marsh to divert the Holland River.

Figure 8 shows a typical dyke and canal constructed within the Holland Marsh. Pumps were installed to control the water table within the dykes, with this project being completed in 1930.

Figure 7: The Location of the Holland Marsh Specialty Crop Area



Source: (MMAH, 2005)

Figure 8: A Typical Dyke and Canal constructed within the Holland Marsh to Control Water Levels

The water levels of the marsh are maintained through a series of inner and outer canals and a series of pumping stations, located at the north end of the marsh near Highway 11. These pumping stations are used to remove excess water from the inner canal during spring runoff or during significant storm events. During drier periods, irrigation water is drawn from the outer canal and the Holland River for crop irrigation. The 18 km inner canal system is only allowed to fluctuate by 125 mm during spring runoff or storm events.

Dykes are embankments built to protect low-lying areas from inundation. They alter only high flows of water by restraining entry to the low-lying areas. The degree of protection provided by dykes depends on their height and construction. High water occurrence increases pressure against the dykes, accelerates their erosion, hastens their saturation and damage due to under-seepage, and may result in overtopping during extreme floods. Any of these incidents can result in dyke failure. The reliability a dyke system offers is contingent upon its continued inspection and maintenance. Dyke construction frequently necessitates the installation of internal drainage and pumping facilities to minimize flooding behind the dyke caused by seepage

through the dyke, the interruption of the natural drainage within the protected area, and by the backing up of sewers during high storm water runoff.

While dykes reduce the risk of flooding, they do not eliminate the possibility of flooding. Every dyke has a design capacity. Once the design capacity of a dyke has been exceeded, it will be overtopped by floodwaters.

Sections of the Holland Marsh along the Holland River have been designated as one of two "specialty crop areas" by the Province of Ontario. This designation recognizes the areas importance as a major producer of vegetables grown in the province.

In 2009, it was estimated that there were approximately 800 different properties within the Marsh. Development on these properties included 500 houses, 350 barns, 125 garages, and 250 greenhouses (K. Smart, 2009).

Hazards associated with the Holland Marsh include flood plain, wetland and unstable soils. The Marsh is located entirely within the Regional Storm flood plain of the West Holland River.

Despite the fact that the area is protected by dykes, the area has experienced significant flooding in the past. Figures 9 and 10 illustrate flooding to the Holland Marsh experienced in 1954 as a result of Hurricane Hazel.

Figure 9: Flooding within the Holland Marsh

Figure 10: Flooding within the Holland Marsh as a Result of Hurricane Hazel (October 1954)

In more recent history (spring 2013), sections of the marsh were flooded north of Yonge Street destroying crops as shown by Figure 11. A number of factors contributed to the dyke failure, including poor dyke construction and lack of maintenance.

Figure 11: Flooding to a portion of the Holland Marsh north of Yonge Street (May 2013)

Although the Holland Marsh has not been adopted as a **special policy area**, the Authority recognizes the designation of the area as the Holland Marsh Specialty Crop by the Province under the Greenbelt Plan (2005).

5.2.2.1. Guidelines for the Holland Marsh Specialty Crop Area

The following guidelines apply to the Holland Marsh Specialty Crop Area where dykes have been constructed to protect the lands within the polder from flooding.

1. In general, development within the flood hazard limit of both Lake Simcoe and riverine systems will not be permitted;
2. Notwithstanding Guideline 5.2.2.1.(1), the guidelines within Section 4.0 – General Guidelines, Section 4.1 – Activities Not Requiring Written Permission by the Approval of this Document and the guidelines within Section 5.3 – Flood Hazard Guidelines will apply to all applications within the dyked areas of the Holland Marsh Specialty Crop Area, with the exception of the guideline related to the requirement for compensation for losses in flood storage capacity that result from development.
3. The placement of fill will be permitted for the repair and maintenance of existing dykes provided that:
    (a) the placement does not exceed 219.50 metres above sea level geodetic, which is the maximum high-water level recorded for Lake Simcoe or maintain the dyke elevation at the same elevation as what currently exists for the dyke system in the immediate area. Documentation will need to be provided to demonstrate that, in general, the proposed dyke elevation will match the original dyke elevation; and

    (b) the top width of the dykes is not to exceed 5 metres. (Existing dykes which currently have a top width that exceeds 5 metres may maintain their current width); and

    (c) the sides slopes of the dyke are to be at a 3:1 slope; and

    (d) the guidelines for Large Scale Fill Placement (Section 4.3) shall apply; and

    (e) there shall be no expansion of the dykes into the river or wetlands.

    (f) If the intent is to raise the top of the dyke to a higher elevation than currently exists for the dyke system in the immediate area, a study will need to be completed, to the satisfaction of the Authority showing that the new higher top of the dyke will not impact on flood levels or obstruct flows. The Terms of Reference for such a study will need to be reviewed and approved by the Authority.

(g) The placement of fill on fields within the Holland Marsh Specialty Crop Area will be permitted to return fields to their original level. The Guidelines within Section 4.3 shall apply.

(h) The dykes are constructed in accordance with the 'Dyke Construction Guidelines - Appendix "E".

4. New residential structures on vacant lots are not permitted in areas where flood depths exceed 0.8 metres or where safe access is not achievable.
5. New development or expansion of existing development is required to demonstrate an approved drainage outlet and provide confirmation that the ditches have the capacity to convey flows from the increase in run off as a result of the proposed development.
6. Fill placement for the construction of accessory structures will be minimized.
7. For applications that meet the definition of **major development**, Requirements will be considered on an individual basis, in association with the Holland Marsh Drainage commission. Consideration will be given to the capacity of existing drainage systems and outlets.

5.3 Flood Hazard Guidelines

The following section addresses development within areas which are susceptible to flooding. They have been organized in alphabetical order based upon the nature of the proposed development.

5.3.1 General Guidelines

In general, development within the flood hazard limit of both Lake Simcoe and riverine systems will not be permitted except in accordance with 5.3.2 through 5.3.17 and where site specific studies show that the development will not affect the control of flooding or erosion or that the development will not create conditions or circumstances that in the event of a natural hazard might jeopardize the health or safety of persons or result in the damage or destruction of property

5.3.2 Accessory Structures

Non-habitable accessory structures (e.g., garages, sheds and gazebos) associated with existing residential development may be permitted within the flood hazard limit where it can be demonstrated that:

(a) there is no alternative site for the location of the structure located outside of the hazardous lands; and

(b) the control of flooding, erosion, unstable soils and bedrock will not be affected; and

(c) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

(d) the depth of flooding at the site does not exceed 0.8 metres; and

(e) the structure is firmly attached to a concrete pad or footings; and

(f) the structure will not impede flood flows; and

(g) the structure is designed to allow for the through flow of water through the structure so as to not cause a loss in flood storage capacity; and

(h) the structure shall incorporate wet flood-proofing measures, based upon site-specific conditions.

5.3.3 Additions (Residential)

Additions may be permitted within an area susceptible to flooding provided that:

(a) Where the depth of flooding exceeds 0.8 metres ground floor additions are 50 percent or less of the original habitable ground floor area to a maximum footprint of 100 square metres, or in the case of multiple additions, all additions combined are equal to or less than 50 percent of the original habitable ground floor area to a maximum footprint of 100 square metres; and

(b) An additional storey does not exceed the original habitable ground floor area; and

(c) there is no alternate location for the addition located outside the flood hazard; and

the proposed addition would not have an impact on the control of flooding, erosion, or unstable soils; and

(d) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

(e) the addition does not increase the number of dwelling units of the existing building or structure; and

(f) the addition does not include a basement, regardless if the existing building or structure has a basement; and

(g) the addition is flood-proofed using dry passive flood-proofing to the applicable flood-proofing standard plus a 0.3 metres freeboard allowance; and

(h) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

(i) for riverine flood plains, the loss in flood storage capacity that would result from the construction of the proposed addition as well as fill placement required to flood-proof the structure is compensated for to the satisfaction of the Authority; and

(j) certification is provided from a registered professional engineer that the proposed addition will be able to withstand the hydrostatic and lateral forces associated with flood waters.

5.3.4 Additional Dwelling Units/Change of Use

A proposal to increase the number of dwelling units within an existing structure or to change the existing use of a building or structure to an institutional or residential use is not supported within the floodplain.

A proposal for interior renovations or changes of use may be permitted where:

(a) The change of use results in less residential units

(b) Flood-proofing is achieved to the extent possible for existing buildings

5.3.5 Farm Buildings

The construction of farm buildings (e.g., barns, drive sheds, silos) may be permitted within the flood plain provided that:

(a) there is no other location for the structure located outside the flood plain; and

(b) the proposed structure would not have an impact on the control of flooding, erosion, or unstable soils; and

(c) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

(d) the depth of flooding at the site does not exceed 0.8 metres; and

(e) the structures are flood-proofed using at a minimum wet flood-proofing techniques to the applicable flood-proofing standard plus a 0.3 metres freeboard allowance; and

(f) Farm buildings within the Holland Marsh Specialty Crop Area are also subject to the requirements of Section 5.2.2.1.

5.3.6 Basements

The construction of basements will not be permitted in association with new structures within the flood plain.

5.3.7 Commercial/Industrial Structures

The construction of new commercial/industrial structures as well as additions to existing commercial/industrial structures will generally not be permitted within the flood plain.

5.3.7.1 Notwithstanding 5.3.7, the Authority may grant permission for the construction of a new commercial/industrial structure, provided that:

(a) there is no alternate location located outside the flood hazard; and

(b) the depth of flooding at the site does not exceed 0.8 metres; and

(c) the proposed structure would not have an impact on the control of flooding, erosion, unstable soils; and

(d) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

(e) the structure/addition is flood-proofed to the applicable flood-proofing standard plus a 0.3 metres freeboard allowance; and

(f) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

(g) for riverine flood plains, the loss in flood storage capacity that would result from the construction of the proposed structure or addition as well as fill placement required to flood-proof the structure is compensated for to the satisfaction of the Authority; and

(h) certification is provided from a registered professional engineer that the proposed structure/addition will be able to withstand the hydrostatic and lateral forces associated with flood waters.

5.3.8 Decks and Porches

The construction of decks and porches may be permitted within the flood hazard limit provided that:

(a) the deck or porch is not enclosed above; and

(b) the deck/porch is firmly anchored to a concrete pad or footings; and

(c) the area beneath the deck and porch is not to be enclosed to allow the free flow of floodwaters.

5.3.9 Fencing

The Authority may grant permission for the construction of a fence, provided that:

(a) the fence is constructed in such a manner that it does not impede conveyance of flow of a watercourse during a regulatory flood; and

(b) the fence does not interfere with the watercourse; and

(c) the construction of the fence would not have an impact on the control of flooding, erosion, dynamic beaches or unstable soils.

5.3.10 Geo-thermal Heating and Cooling Systems

The Authority may grant permission for the installation of new/replacement geo-thermal heating and cooling systems, provided that:

(a) there is no alternate location located outside the hazard; and

(b) the geo-thermal systems are closed systems; and

(c) the placement of fill associated with the geo-thermal system would not have an impact on the control of flooding, erosion, dynamic beaches or unstable soils; and

(d) geo-thermal pumps and electrical connections shall be flood-proofed and located at least 0.3 metres above the regulatory flood elevation; and

(e) compensation will be required for losses in flood storage capacity resulting from the placement of fill associated with the installation of these systems within riverine flood plains; and

(f) all geo-thermal systems are to be installed and decommissioned by a licensed professional technician and properly tests for leaks prior to their operation.

The installation of geo-thermal heating and cooling systems will not be permitted within Lake Simcoe;

In addition, the installation of vertical loop geo-thermal heating and cooling systems deeper than 5 metres shall require proof of approval from the Ontario Ministry of the Environment and Climate Change prior to the issuance of a permit from the Authority.

5.3.11 Parking Facilities

The creation of new above ground parking lots or the expansion of existing above ground parking lots may be permitted provided that:

(a) there is no alternate location for the parking lot; and

(b) the control of flooding, erosion and unstable soils are not affected and the activity does not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons.

(c) bollards or other suitable barriers (e.g., trees) are placed to ensure that cars are not carried away by floodwaters; and

(d) overnight and residential parking is not permitted in areas where safe ingress and egress as defined for roadways is not available; and

(e) signage is placed throughout the parking lot to advise motorists of the potential hazards and that overnight parking is not permitted; and

(f) new underground parking is not supported within flood hazard areas.

5.3.12 Replacement/Reconstruction of Existing Residential Structures

Proposals for the replacement or reconstruction of existing residential structures where the depth of flooding at the site exceeds 0.8 metres may be permitted subject to the following:

(a) the structure was not destroyed by flooding; and

(b) the structure to be replaced must not be abandoned or derelict for a period of one year or more; and

(c) the use will not increase the risk to public health and safety; and

(d) there is no increase to the original habitable space of the structure; and

(e) the replacement structure will be located in the same location as the original structure or relocated to a less hazardous portion of the property; and

(f) the replacement structure will not have an increased number of dwelling units; and

(g) the replacement structure is flood-proofed to the maximum extent possible using dry passive flood-proofing to the applicable flood-proofing standard plus a 0.3 metres freeboard allowance; and

(h) certification is provided from a registered professional engineer that the replacement structure will be able to withstand the hydrostatic and lateral pressures associated with floodwaters; and

(i) a change in use from habitable to non-habitable structures will be encouraged by the Authority; and

(j) in accordance with Section 5.3.3 minor additions to the original ground flood area may be permitted where floodproofing is achievable.

5.3.13 Residential Structures

The construction of new residential structures or discretionary replacement/reconstruction of existing residential structures will be permitted where:

(a) there is no alternate location for the structure outside the flood hazard; and

(b) the depth of flooding does not exceed 0.8 metres; and

(c) the structure would not have an impact on the control of flooding, erosion, or unstable soils; and

(d) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

(e) the structure is flood-proofed using dry passive flood-proofing to the applicable flood-proofing standard plus a 0.3 metres freeboard allowance; and

(f) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

(g) it is demonstrated through the submission of the appropriate engineering studies that the proposed structure and any associated fill/grading will not impact the floodline upstream or downstream of the proposed development; and

(h) for riverine flood plains, the loss in flood storage capacity that would result from the construction of the proposed structure or addition as well as fill placement required to flood-proof the structure is compensated for to the satisfaction of the Authority; and

(i) certification is provided from a registered professional engineer that the structure will be able to withstand the hydrostatic and lateral forces associated with flood waters; and

(j) safe access as defined by the Authority is available to the site.

5.3.14 Septic Systems

The installation of new and replacement septic systems may be permitted subject to the following:

(a) there is no alternate location for the septic system outside the flood hazard; and

(b) the placement of fill associated with the septic system would not have an impact on the control of flooding, erosion, or unstable soils; and

(c) the septic system shall be flood-proofed using a watertight cap to prevent ingress of flood waters to the main tank and appropriate valves to prevent back-up into a structure; and

(d) septic systems shall be designed to withstand lateral and buoyant pressures associated with floodwaters; and

(e) for riverine flood plains, there shall be compensation for losses in flood storage capacity if possible; and

(f) tertiary treatment systems will be encouraged throughout the watershed, especially where required setbacks from rivers and lakes is not available.

5.3.15 Swimming Pools

The construction of above ground swimming pools will be permitted provided that:

(a) there is no alternate location for the above ground pool located outside the flood hazard; and

(b) the proposed above ground pool would not have an impact on the control of flooding, erosion, or unstable soilds; and

(c) the above ground pool would not obstruct flood flows; and

(d) all electrical circuits associated with the above ground pool is flood proofed.

The construction of in-ground swimming pools may be permitted provided that:

(a) there is no fill placement associated with the installation of the pool within riverine flood plains; and

(b) all electrical services associated with the pool are flood proofed.

5.3.16 Trailer Parks

(a) In general, the creation of new trailer parks or the expansion of existing trailer parks will not be permitted within the flood plain; and

(b) In general, new trailers will not be permitted within the flood plain.

5.3.17 Spill Area

A flood plain spill area exists where flood waters are not physically contained within the valley or stream corridor and exit into surrounding lands. Consequently, the limit and depth of flooding are difficult to determine. Flood spill areas occur naturally or can occur as a result of downstream barriers to the passage of flood flows such as undersized bridges or culverts. Development in spill areas is not regulated in the same manner as development within flood plain areas, as these areas are not readily defined and the storage/flow that occurs in these areas is not considered as part of the natural floodplain, therefore preservation of flood storage is not typically required. Although flood risks parameters cannot be estimated within spill areas, they are nonetheless hazardous.

5.3.17.1 Authority will determine where floodplain spill area policies apply, considering the site-specific characteristics of the spill in accordance with Provincial standards. In general, where spill locations are identified, development may be permitted provided safe access is available and appropriate flood mitigation can be established including:

(a) Raising the elevation of proposed buildings or structures above the anticipated flood level; and/or

(b) Raising the lands within the spill location.

Chapter 6: Lake Simcoe Shoreline and Lakebed

6.1 General Guidelines

In accordance with the Lake Simcoe Protection Act and Plan, of which the Authority's permits are prescribed instruments, the Authority encourages the restoration, enhancement, or re-establishment of natural shorelines wherever these opportunities exist. This approach will assist in maintaining a healthy and functional watershed and minimize the need for future restoration and mitigation works.

6.1.1 In general, no new development will be permitted within the 30-metre minimum vegetation protection zone (MVPZ) of Lake Simcoe as defined in the relevant policies of the Lake Simcoe Protection Plan (LSPP) except as:

- Permitted under 6.1 DP of the LSPP

6.1.2 Where development or site alteration is permitted within the vegetation protection zone, the proposal must demonstrate that the following has been achieved:

(a) the adjacent riparian areas will be maintained, protected and/or improved; and

(b) that ecological functions be enhanced and/or improved wherever possible; and

(c) erosion, sedimentation and introduction of excess nutrients or pollutants be minimized; and

(d) planning and construction practices be utilized to maintain and improve water quality; and

(e) any removal of vegetation that cannot be mitigated will be compensated to the satisfaction of the Authority.

6.2 Shoreline Alteration and Protection

(a) In general, alterations to a shoreline shall not be permitted except in accordance with the policies 6.3 through 6.8.

(b) No reasonable alternative for the proposed alteration to the shoreline exists and the alteration has been assessed through a Natural Heritage Evaluation.

(c) Natural shoreline treatments (e.g., planting of natural vegetation, bioengineering, granite boulders) that maintain the natural contour of the shoreline will be used.

(d) The alteration will not adversely affect the ecological function of the shoreline and surrounding riparian area and will result in a net environmental improvement.

(e) Shoreline hardening techniques such as the use of concrete, sheet steel, railway ties, pressure treated lumber, gabion baskets, and terracing will generally not be permitted.

(f) Erosion and sediment control measures shall be put in place prior to any work along a shoreline and maintained during construction and until the site is permanently stabilized. This will include, where applicable, the use of silt fence, check dams, floating silt curtains, and/ or vegetation protection zones.

(g) Surplus excavated fill material is removed from the shoreline and placed outside of the regulated area.

(h) The transition between proposed protection works and adjacent shoreline properties must be designed so that erosion, debris accumulation and changes in sediment transport will not occur and/or impact neighbouring properties.

(i) Shorelines that have steep slopes may require input from a geotechnical engineer to support the proposed development in the vicinity of the steep slope. If the slope is deemed to be stable by a geotechnical engineer than development and/or alteration to the slope will not be permitted.

(j) Generally, the creation of new artificial sand beaches will not be permitted along the shoreline of Lake Simcoe. Exceptions may be permitted for small areas along the shoreline above the average annual high-water elevation.

6.3 Habitable Structures/Additions

(a) Generally, new habitable structures/additions will not be permitted within the 30-metre minimum vegetation protection zone of the shoreline of Lake Simcoe. Exceptions may be permitted within existing settlement areas or where lot sizes are restricted and must meet policies 6.3 (b) through 6.3(h).

(b) There is no area to locate the structure/addition outside of the setback.

(c) The setback from the shoreline is maximized to the greatest extent possible.

(d) The property is an existing lot of record, where the current zoning permits the development of a habitable structure/addition.

(e) Any habitable structure/addition within 15 metres of the shoreline will be accompanied by a Coastal Engineering Report to the satisfaction of the Authority.

(f) Additional natural protection measures and/or ecological enhancements along the shoreline are incorporated into the design (e.g., planting plans required to compensate for development within the MVPZ).

(g) That all other applicable guidelines of this document can be met to the satisfaction of the Authority.

(h) When appropriate, a restrictive covenant under the Conservation Land Act be registered on title at the expense of the owner/applicant.

6.4 Boathouses

The Authority recognizes that the proximity to water is a key consideration in the use and enjoyment of recreational facilities such as **boathouses**. Boathouses have a long history on the Lake Simcoe shoreline.

Boathouse Definition: A building that is designed and used solely for the purpose of storing and docking boats and related equipment. The structure does not contain habitable space, water

and/or sanitary servicing and has an opening to the water of an appropriate size to accommodate a boat.

The Authority may permit the construction of boathouses along the shoreline or within Lake Simcoe provided that:

(a) the structure is firmly anchored in place to ensure that it is not affected by changing water levels; and

(b) the structure is wet flood-proofed to the fullest extent possible (e.g., electrical outlets 0.3 m above flood elevation); and

(c) the structure does not include any habitable space including but not limited to living accommodations, kitchen or food prep areas, bedroom, washroom, hot tub, whirlpool, sauna, fireplace; and

(d) the structure is not to be serviced by natural gas, propane, oil, other similar types of fuel or potable water and sanitary; and

(e) the structure is located within an area that was previously disturbed or developed and the ecological function of the vegetation protection zone be maintained (e.g., no alteration to naturally vegetated shorelines). If no previously disturbed area of the shoreline exists, the development will need to be supported through the submission of Natural Heritage Evaluation to the satisfaction of the Authority.

(f) the structure does not impede the natural flow of water along the shoreline. Coastal Engineering Reports will be required if there is potential for an impact to the flow of water and/or natural hazards; and

(g) the applicant/landowner registers a Restrictive Covenant under the *Conservation Land Act* acknowledging that the structure could be damaged by flooding and/or ice and floating debris and agrees to hold the Authority safe hold harmless and to remove or repair the structure should it be significantly damaged or destroyed; and

(h) the location of the structure is within the projected lot lines; and

(i) sheet pile shoring is utilized for structures within the bank of the shoreline, to minimize the disturbance of the shoreline and reduce the risk of erosion; and

(j) Coastal Engineering be provided where there is high risk of damages associated with monetary investments; and

(k) the structure shall not be permitted to include excavated and/or dredged wet boat slips.

6.5 Docks

Dock definition: Structure that is perpendicular to the shoreline, extending out from the shoreline into a body of water, and used to dock/moor boats.

The Authority may permit the construction of permanent docks in Lake Simcoe, provided that:

(a) the structure does not impede the flow of water along the shoreline. Coastal Engineering Reports will be required if there is potential for an impact to the flow of water and/or natural hazards; and

(b) the structure is designed to minimize damages that could occur as a result of coastal processes; and

(c) the structure is anchored appropriately to the shoreline to minimize erosion; and

(d) the supporting structure of the proposed dock is not concrete, sheet steel, railway ties, pressure treated lumber or gabion baskets; and

(e) the location of the structure is within the projected lot lines.

6.6 Shore Decks

Shore deck definition: A platform structure that is situated partially on the shoreline and/or over the Lake that is used to anchor seasonal docks.

Shore decking is considered in conjunction with lot size and designated policies of the Lake Simcoe Protection plan and may be permitted subject to the following:

(a) That the proposed structure and/or associated vegetation removal will not increase the risk of shoreline erosion.

(b) That the structure is located within an area that was previously disturbed or developed and the ecological function of the vegetation protection zone be maintained (e.g., no alteration to naturally vegetated shorelines). If no previously disturbed area of the shoreline exists, the development may need to be supported through the submission of Natural Heritage Evaluation to the satisfaction of the Authority.

(c) Additional enhancements along the shoreline be incorporated into the design (e.g planting plans required compensate for development within the MVPZ)

6.7 Dredging

Dredging Definition: Excavating material from the bed of the Lake or along the shoreline area of Lake Simcoe.

The Authority may permit dredging in Lake Simcoe, provided that:

(a) it does not impede the natural flow of water along the shoreline and does not have an impact on littoral drift.

(b) the intent is not for the purposes of creating an inland boat slip, canal and/or lagoon.

(c) the dredged material is placed in a manner that prevents it from re-entering the Lake. Proper Silt controls must be installed and maintained until the material is taken off-site.

(d) the area has been previously dredged and is a known navigation channel.

6.8 Groynes and Breakwaters

Groyne Definition: A structure that projects out from the shoreline in order to interrupt waterflow and limit the movement of sediment. Materials generally consist of stone, wood, or concrete.

Breakwater Definition: An offshore structure that is constructed to protect from heavy wave action and currents. Materials generally consist of stone or concrete.

(a) The construction of new groynes will not be permitted within Lake Simcoe.

(b) The construction of new breakwaters will not be permitted within Lake Simcoe.

Special Note:

(a) Boathouses are subject to the Building Code and as such require a Building Permit from the local municipality and may be subject to other municipal requirements and bylaws.

(b) Any proposed development on or partially on Crown Land may require approval from the Ontario Ministry of Natural Resources and Forestry.

(c) Any proposed development within or on the bed of Lake Simcoe may require a permit or authorization from Fisheries and Oceans Canada.

Chapter 7: Erosion Hazards

7.1 Defining Shoreline Erosion Hazard Limits for Lake Simcoe

The shoreline erosion hazard for Lake Simcoe is comprised of the following:

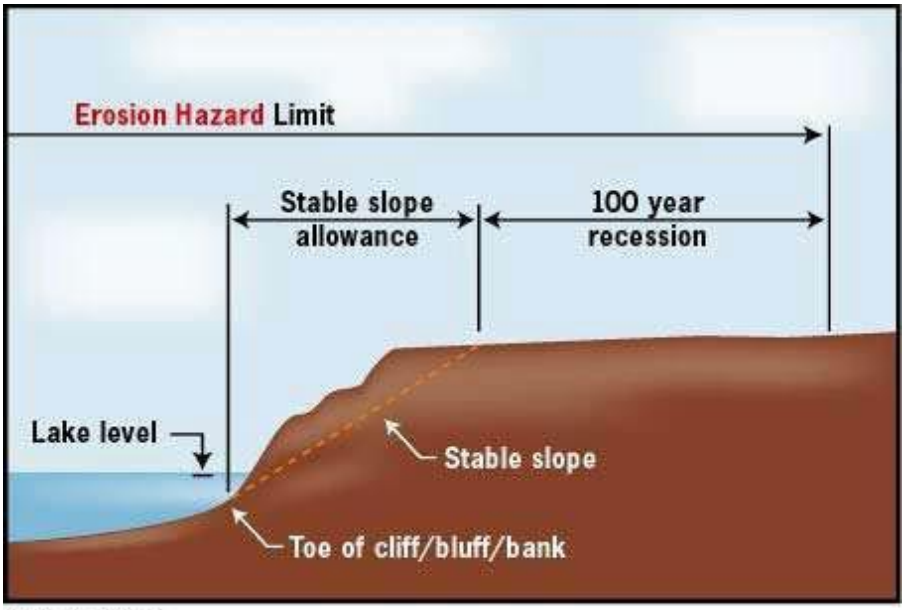
(a) stable slope allowance (3:1); plus

(b) 100-year recession allowance (15 metres).

Figure 12 illustrates the erosion hazard limit for Lake Simcoe.

The erosion hazard is applied to all sections of shoreline along Lake Simcoe, except where dynamic beaches exist.

Figure 12: The Erosion Hazard Limit for Lake Simcoe



Source: (OMNR, 2001a)

7.2 Defining Erosion Hazard Limits for Rivers and Stream Valleys

River and stream systems are dynamic and constantly changing landforms, due mainly to the erosive forces of flowing water and the stability of the surrounding soil. This constant shaping and reshaping of river and stream systems by these physical processes results in hazardous conditions which may pose a risk to life and result in property damages. Erosion is a natural process; however, it can also be caused or rates of erosion can be accelerated by human activities.

To define the hazard limits for river and stream valleys, it is important to understand the landforms which they flow through. While there are many different types of systems, the application of the regulation limit for river and stream systems is based on two simplified landform types:

7.2.1 Confined system

7.2.2 Unconfined system

7.2.1 Confined River or Stream Valleys

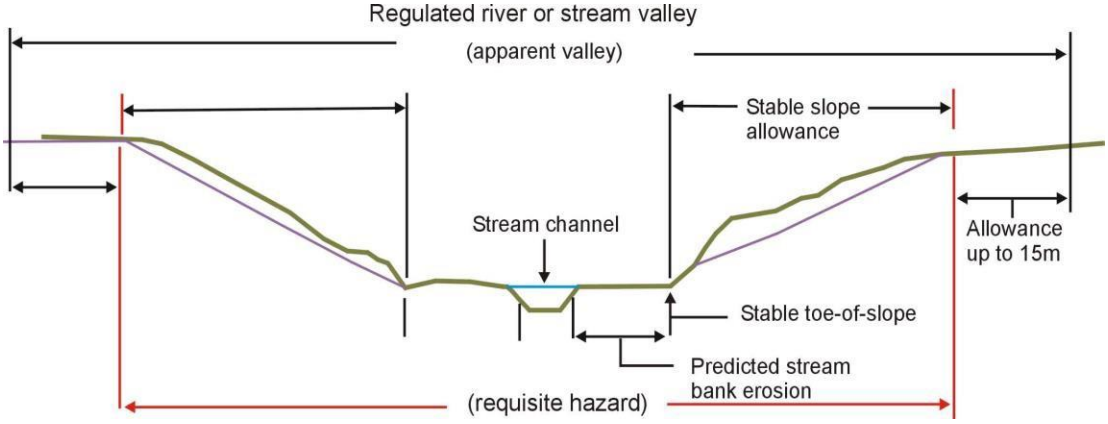
Confined river and stream systems are characterized by a valley which contains a river or stream channel. The valley walls within this type of system are clearly definable as shown by Figure 13.

Figure 13: Example of a Confined River or Stream Valley

Source: (OMNR, 2001a)

Figure 14 illustrates a cross-section through a typical apparent (confined) river or stream valley.

Figure 14: Cross-section through a Typical Apparent (Confined) River or Stream Valley



Source: (OMNR, 2002b)

Defining the Regulated Area Erosion Hazard Limit for Confined Systems:

Erosion and slope instability are two different processes which are often associated together. Erosion is the process by which a material becomes dislodged and worn away due to the force of an erosive agent (I.e., water) at the particle level). Whereas slope instability consists of the sudden movement or sliding of a large mass of soil over a failure plane and is not restricted to the removal of the surface particles. Due to the possibility of unique soil properties at every site where the slopes are higher than 2 m and steeper than 3 to 1, (horiz. to vert.) or where there are issues of public safety or property value, a subsurface investigation of soil stratigraphy and strength properties should be considered.

Defining the regulated erosion hazard limit for a confined system should be based on the following:

Toe erosion allowance* (15 metres OR 100 times the average annual recession rate of the toe) OR as determined by a study using accepted geotechnical and engineering principles	+ allowance for stable slope 3:1 (h:v) minimum OR as determined by a study using accepted geotechnical principles	+ erosion access allowance of 6 metres

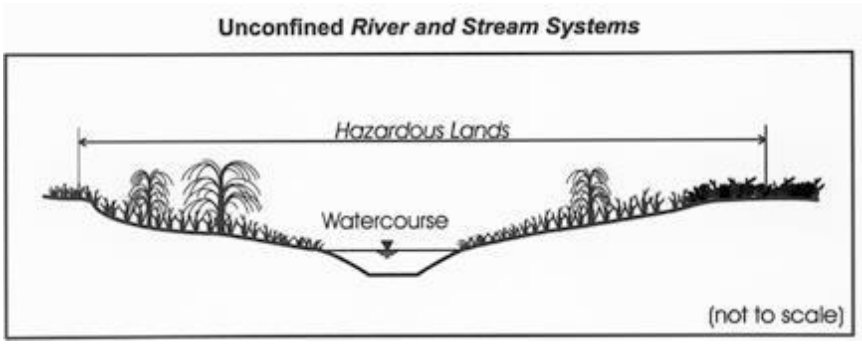
7.2.2 Unconfined River or Stream Valleys

Unconfined river and stream valleys are characterized by fairly flat or gently rolling landscapes, with no discernible valley slope or bank that can be detected from the surrounding landscape as illustrated by Figure 15 and Figure 16. This type of system is typically found in the headwater areas of drainage basins. The river and stream channels are characterized by either perennial or ephemeral flows.

Figure 15: Example of an Unconfined River or Stream Valley

Source: (OMNR, 2001a)

Figure 16: Cross-section through an Unconfined River or Stream Valley



Source: (OMNR, 2002b)

Defining the Erosion Hazard Limit Regulated Area for Unconfined Systems:

The term **meander belt allowance** is the maximum extent that a water channel migrates.

Defining the erosion hazard limit for an unconfined system should be based on the following:

20 times the bank full channel width centered over the meander belt axis OR as determined by a study using accepted engineering principles	+ erosion access allowance of 6 metres

7.3 Erosion Hazard Guidelines

7.3.1 Development shall generally not be permitted within the erosion hazard limits unless the following can be demonstrated:

(a) That no area for the proposed development exists outside of the hazard.

(b) The hazard can be safely addressed, and the development and site alteration are carried out in accordance with established standards and procedures.

(c) New hazards are not created, and existing hazards are not aggravated (no impact on existing or future slope stability).

(d) No adverse environmental impact will result.

(e) Vehicles and people have a way of safely entering and exiting the area during times of emergency.

7.3.2 In specific cases where buildings, structures or private access roads already exist within the erosion hazard limit, reconstruction or alteration may be permitted subject to the following:

(a) Best efforts must be undertaken to relocate the existing structure outside of the riverine erosion hazard limit.

(b) A qualified professional must complete necessary studies to determine that the development will not pose a risk to people or property. The study must be based on established provincial guidelines which determines an appropriate factor of safety.

7.3.3 Non-habitable accessory buildings or structures associated with an existing use such as tool sheds, gazebos and other similar structures may be permitted within the erosion hazard limit in accordance with the other applicable policies provided that the structure does not increase the risk to the hazard and a development setback of not less than 6 metres is maintained from the top of bank.

7.4 Policies for Development within the Shoreline Erosion Hazard

7.4.1 Development within the shoreline erosion hazard limit may be permitted in accordance with the policies in Chapters 4, 5 and 6 where it can be demonstrated that:

(a) There is no alternative site outside of the shoreline erosion hazard.

(b) The proposed development is not impacted by the shoreline flooding hazard.

(c) The proposed development does not result in an increased risk of erosion and is located in an area of the least risk.

(d) A site specific geotechnical or coastal study based on established provincial guidelines demonstrates that the proposed development will not be within the stable slope allowance.

(e) The potential for erosion is addressed through the submission of a proper drainage plan, erosion and sediment control plan and stabilization/restoration plan.

(f) The potential of increased loading forces is addressed through the appropriate structural design.

(g) Natural features and/or ecological functions contributing to the conservation of land are protected.

(h) Development will not prevent access to the shoreline in order to undertake preventative actions/maintenance during an emergency.

(i) The proposal is constant with all relevant designated policies of the Lake Simcoe Protection Plan.

7.4.2 Stabilization projects intended to reduce the stable slope allowance for new development will not be permitted. Where additional stabilization is recommended, enhancement, bioengineering, and other natural methods will be accepted.

7.4.3 Where stabilization is required for existing development, the proposal must be completed by a qualified geotechnical or costal engineer.

7.5 Policies for Development within the Riverine Erosion Hazard – Confined Systems

7.5.1 Development within the Riverine Erosion Hazard limit may be permitted in accordance with the policies in Chapters 4, 5 and 6 and where a site-specific geotechnical assessment based on established provincial guidelines (using a 3:1 inclination) or an appropriate factor of safety establishes a more precise Riverine Erosion Hazard limit, and where it can be demonstrated that:

(a) There is no impact on existing and future slope stability.

(b) The potential of increased loading forces on the top of slope is addressed through the appropriate structural design and supporting studies as required.

(c) The potential for surficial erosion is addressed by a drainage plan.

(d) The development is outside of the stable slope allowance.

(e) All other relevant sections of this document have been addressed.

(f) The proposal is consistent with all relevant designated policies of the LSPP.

7.5.2 Bank stabilization projects intended to protect new development will not be permitted. Where additional stabilization is recommended for existing development; enhancement, bioengineering, natural channel design techniques, revetments and other natural methods will be acceptable.

7.6 Policies for Development within the Riverine Erosion Hazard-Unconfined Systems

7.6.1 Development within the Riverine Erosion Hazard limit may be permitted in accordance with the policies in Chapters 4, 5 and 6, and where a site-specific geomorphologic (i.e., meander belt analysis) or engineering assessment based on established provincial guidelines demonstrates that the proposed development will not negatively impact the hazard.

7.6.2 The minor alteration of a watercourse for the purpose of stabilization, erosion control or protection shall only be permitted if it is demonstrated that natural watercourse treatments that maintain the natural contour of the watercourse will be used, and a vegetative riparian area will be established to the extent possible.

Chapter 8: Development and Interference with Wetlands and Other Areas

8.1 The Importance of Wetlands

Wetlands provide functions that have both ecosystem and human values. From an ecosystem perspective these include primary production, sustaining biodiversity, wildlife habitat, habitat for species at risk, maintenance of natural cycles (carbon, water) and food chains. From a human perspective, wetlands provide social and economic values such as flood attenuation, recreation opportunities, production of valuable products, improvement of water quality and educational benefits.

Wetlands retain water during periods of high-water levels or peak flows (i.e., spring freshet and storm events) allowing the water to be slowly released into the watercourse, infiltrate into the ground, and evaporate. Also, wetlands within the floodplain of a watercourse provides an area for the storage of flood waters and reduce the energy associated with the flood waters.

Wetlands retain and modify nutrients, chemicals and silt in surface and groundwater thereby improving water quality. This occurs temporarily in the plants of the wetland but long term in the organic soils.

In addition, wetlands provide a variety of hydrologic functions. Over 60 potential hydrological functions were identified and reviewed when developing the Southern Ontario Wetland Evaluation System. However, confirmation of many of these functions require hydrological experts and field studies by qualified hydrologists. Therefore, the Ontario Wetland Evaluation

System utilizes easily identifiable features and measures as surrogate values for these hydrological features.

The applicable designated policies of the Lake Simcoe Protection Plan will be considered and applied in conjunction with the below guidelines.

8.2 Regulatory Perspective on Development and Interference

In accordance with the Conservation Authorities Act, no person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.

Development activities in areas that are within the authority's area of jurisdiction and are, …

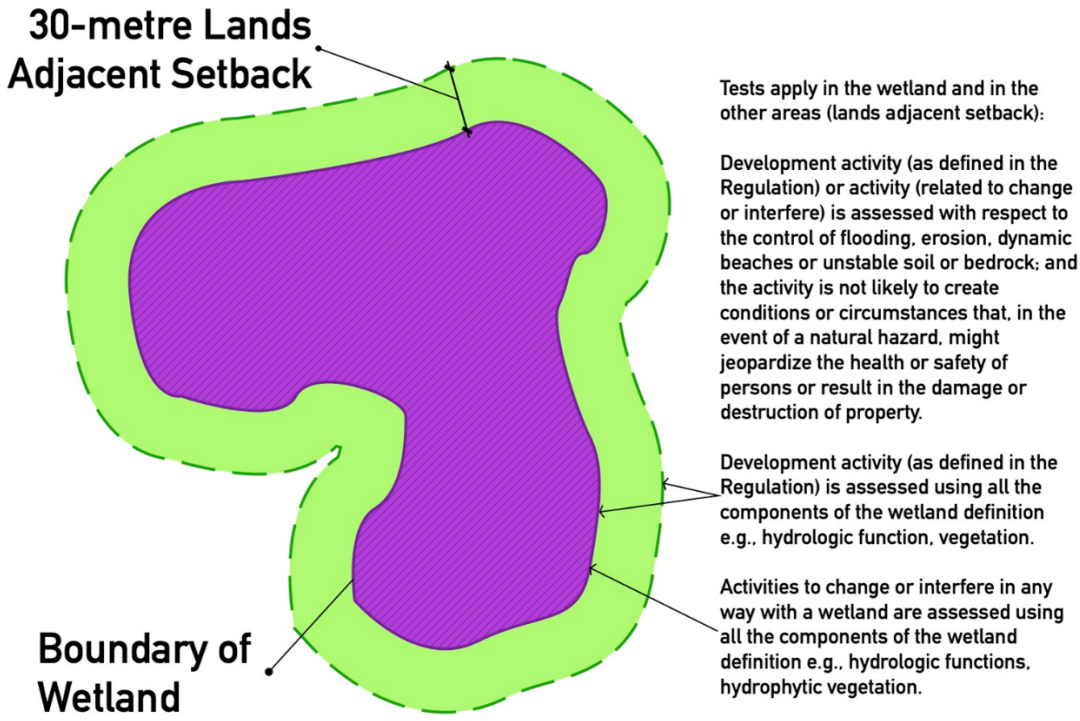
wetlands, …, or

other areas in which development should be prohibited or regulated, as may be determined by the regulations. 2017, c. 23, Sched. 4, s. 25."

For the Authority watershed, the regulation of "other areas" includes areas within 30 metres of all Wetlands.

Interference is considered to be anything that hinders, disrupts, degrades or impedes in any way the natural features or hydrologic and ecological functions of a wetland or watercourse (Conservation Ontario, 2008). An example of an activity that would be considered interference with a wetland is the removal of vegetation from the wetland. Figure 17 illustrates the difference between wetlands and other areas as defined by the Conservation Authorities Act.

Figure 17: The Difference between Wetlands and Other Areas as Defined by the Conservation Authorities Act



Development within portions of a wetland may also be regulated due to the presence of hazardous sites. Further Information related to hazards due to wetlands can be found in Chapter 10 – Organic Soils.

8.3 Development and Interference with Wetlands

When reviewing applications for development and interference within a wetland, the following guidelines shall apply in addition to those guidelines associated with unstable soil in Chapter 10:

8.3.1 In general, development and/or interference shall not be permitted within wetlands.

8.3.2 Notwithstanding Guideline 8.3.1, the Authority may grant approval for development within a Wetland for public utilities or public infrastructure (e.g., roads, pipelines, water or sewer services); passive trails; conservation or restoration projects; provided that:

(a) there is a demonstrated need and no reasonable alternative location exists outside the wetland; and

(b) the control of flooding, erosion, and unstable soils will not be affected; and

(c) the interference to the wetland has been determined to be acceptable through the submission of the appropriate studies (e.g., Environmental Impact Study, geotechnical study, hydrogeological study) prepared to the satisfaction of the Authority.

(d) The proposal meets the applicable designated policies of the Lake Simcoe Protection Plan.

8.3.3 Notwithstanding Guideline 8.3.1, the Authority may grant approval for development within a wetland, provided that:

(a) there is a demonstrated need, and no reasonable alternative location exists outside the wetland; and

(b) the control of flooding, erosion, unstable soils will not be affected; and

(c) the interference to the wetland have been determined to have no negative impact through the submission of the appropriate studies (e.g., Environmental Impact Study, geotechnical study, hydrogeological study, water balance, etc.) prepared to the satisfaction of the Authority; and

(d) The proposal meets the applicable designated policies of the Lake Simcoe Protection Plan.

(e) a mitigation plan is prepared to the satisfaction of the Authority to compensate for the loss of wetland features and function.

8.3.4 Notwithstanding Guideline 8.3.1, where buildings, structures or septic systems already exist within a wetland, the Authority may grant approval for the replacementof the structure or for the construction of accessory structures (e.g., garages, sheds, pools) subject to the following:

(a) the structure to be replaced is not a derelict building; and

(b) the structure is replaced within the existing disturbed area; and

(c) there is no viable alternate location on the property outside of the wetland; and

(d) all other natural hazards which are associated with the site (e.g., flooding, unstable soils) must be addressed to the satisfaction of the Authority; and

(e) all development is located above the high-water table; and

(f) existing drainage patterns will be maintained; and

(g) best management practices are used to maintain water balance and control erosion and sedimentation.

8.3.5 Interference to a wetland by selective tree harvesting employing good forestry practices may be permitted provided it can be demonstrated through an EIS or equivalent, such as a Forest Management Plan, there will be no negative impact on functions of the wetland.

8.4 Development and Interference within "Other Areas"

8.4.1 The Authority shall require a 30-metre minimum setback from the boundary of all wetlands for all new development.

8.4.2 Notwithstanding 8.4.1, the Authority may permit development within 30 metres of wetland provided that the development will have no negative impact on the wetland and that there will be no impact to the control of flooding, erosion or unstable soils.

8.4.3 A study or studies to assess the application and each component of the wetland definition may be required if the submitted plans do not demonstrate that impacts to the wetland have been minimized to the maximum extent.

8.5 Mitigation/Compensation for Wetland Loss

It is important to realize that only so much loss of a finite resource such as wetlands can occur before permanent damage is done (North American Wetlands Conservation Council, 1998). To help achieve the no net loss principle, the following guidelines shall apply:

8.5.1 If an Environmental Impact Study, that has been prepared in support of a development proposal, identifies that the development would result in the loss of wetland features and functions; then the Authority shall require that a Mitigation Strategy be prepared by a qualified professional to the satisfaction of the Authority, and

8.5.2 the Authority shall consider **compensation** for loss of wetland features and functions when there is no other alternative available; and

8.5.3 a Mitigation Strategy will be based on the principles of:

- replacing the **natural heritage feature** to achieve no net loss in area (e.g., 3:1); and
- replacing the associated **ecological function** of the feature; and

- **compensation** shall be as close to the site as possible, except where better/more wetland values can be protected by selecting a more distant location, or where the long-term integrity of near sites are threatened.

Chapter 9: Alteration to Watercourses

Activities such as altering, straightening, changing, diverting or interfering in anyway, with the channel of a watercourse or with the shoreline of a lake are considered alteration to a watercourse or shoreline.

The Authority supports the application of **natural channel design** principles in recognition of the environmental, human health, economic and aesthetic benefits of this approach.

The Authority reviews applications which involve alterations to watercourses in co-operation with the appropriate District/Area Offices of the Ontario Ministry of Natural Resources.

9.1 General Guidelines – Alteration to Watercourses

9.1.1. In general, alterations to a watercourse shall not be permitted except in accordance with the policies 9.1.2 through 9.2.6.

9.1.2. Notwithstanding Policy 9.1.1, the Authority may grant permission for the alteration of a watercourse provided that:

(a) no reasonable alternative for the proposed alteration to the watercourse/shoreline exists and the alteration has been assessed through an Environmental Assessment or through site specific studies (e.g. geomorphological, flood plain), which are applicable based upon the scale and scope of the proposed works; and

(b) the alteration is designed in accordance with **natural channel design** principles where possible; and

(c) the alteration will not increase either upstream or downstream flood elevations, flood frequencies or rates of erosion; and

(d) the alteration will not adversely affect the **ecological function** of the **watercourse** and surrounding riparian area and will result in a net environmental improvement; and

(e) the alteration will not adversely affect neighboring properties.

9.1.3. Hardening techniques such as the use of concrete, sheet steel, railway ties, pressure treated lumber and gabion baskets will generally not be permitted.

9.1.4. Erosion and sediment control measures shall be put in place prior to any work along a watercourse or shoreline and maintained during construction and until the site is permanently stabilized. This will include, where applicable, the use check dams, silt screens, sediment ponds and/ or **vegetation protection zones**.

9.1.5. All surplus excavated fill material must be immediately removed from the work site and placed outside of the regulated area.

9.1.6. Baseflows must not be adversely affected by any work.

9.2 Specific Guidelines – Watercourse Alterations

9.2.1 Channel realignments may be permitted to improve hydraulic and fluvial processes or aquatic habitat provided that:

(a) the need for the watercourse alteration has been demonstrated to the satisfaction of the Authority; and

(b) the alteration is designed in accordance with natural channel design principles; and

(c) the alteration will not increase either upstream or downstream flood elevations, flood frequencies or rates of erosion; and

(d) the alteration will not adversely affect the ecological function of the **watercourse** and surrounding riparian area; and

(e) the realigned channel may not be located any closer to a property line than the location of the original channel so that the development ability of the neighboring property (i.e., buffers, setbacks) is not affected.

9.2.2 The construction of new in-stream or by-pass ponds which are directly connected with a watercourse will not be permitted. Where these ponds exist, the Authority will encourage their removal and the restoration of the site.

9.2.3 Watercourse crossings may be permitted provided that there is no alternative to the crossing and:

(a) open bottom culverts are encouraged; and

(b) the crossing is sized and located such that there will be no increase in either upstream or downstream flooding or erosion; and

(c) the crossing is designed by a qualified professional, where appropriate.

9.2.4 The enclosure of a **watercourse** may be permitted where there is an existing risk to public health and safety and/or property damage; or where the work is supported by an Environmental Assessment or **comprehensive environmental study** which has been approved by the Authority.

Proposed enclosures shall demonstrate:

(a) all other feasible options have been explored to address the hazard(s); and

(b) the risk to public safety is reduced; and

(c) there is no negative impact on wetlands; and

(d) erosion and sedimentation both during and after construction is prevented.

9.2.5 Alterations and maintenance of existing dams and dykes may be permitted where it can be demonstrated that:

(a) the proposed alterations have been designed by a qualified professional; and

(b) riparian rights of downstream property owners are respected; and

(c) the integrity of the original structure is maintained; and

(d) the capacity of the structure to pass flows is maintained; and

(e) the works will not result in increased flooding to either upstream or downstream property owners.

9.2.6 Dam decommissioning may be permitted where an Environmental Assessment or detailed decommissioning plan has been completed to the satisfaction of the Authority to demonstrate that:

(a) all potential hydrologic and ecological impacts have been identified and taken into consideration; and

(b) significant natural features and hydrologic and **ecological functions** within or adjacent to the river, creek, stream or watercourse are restored and enhanced through the retirement or removal of the dam and a site restoration plan to the satisfaction of the Authority; and

(c) the risk of sedimentation during and after the removal or retirement of the structure is addressed through a Draw Down Plan to the satisfaction of the Authority; and

(d) new hazards are not created, and existing hazards are not aggravated as a result of the dam decommissioning.

9.3 Ponds

(Note: These guidelines do not apply to Storm Water Ponds which are dealt with through criteria established in the Authority 'Storm Water Management Submission Guidelines' and by the Ministry of the Environment)

9.3.1 These guidelines apply to ponds greater than 10 m^2 in size.

9.3.2 Ponds must be located at least 30 metres from all watercourses.

9.3.3 Ponds will not be permitted within a wetland.

9.3.4 Ponds to be placed within **other lands** adjacent to a **wetland** will require the submission of a hydrogeological report to demonstrate that the excavation of the pond will not adversely affect the hydrology of the **wetland**.

9.3.5 The decommissioning and filling of an existing pond located within 30 metres of a **watercourse** will be required to demonstrate that there will be not detrimental impact on baseflow of the adjacent watercourse.

Chapter 10: Hazardous Lands

10.1 Organic Soils

Organic soils are formed by the decomposition of vegetative and organic materials into humus, a process known as humification. A soil is deemed to be organic when the percentage weight loss of the soil when heated, is between five to eighty percent (MNR 2001).

Organic soils are typically found in wetland areas. Areas which have been mapped as wetland will be a good indicator to the presence of organic soils in an area.

Due to the high variability of organic soils, the potential risks and hazards associated with **development** in this type of **hazardous land** are also highly variable. As a result, assessments of the development potential in an area of organic soils are site-specific. Section 4.0 of the Hazardous Sites Technical Guide prepared by the Ministry of Natural Resources (1996) provides important guidance in this regard.

10.2 Unstable Bedrock

Unstable bedrock includes but is not limited to areas identified as karst formations. Karst formations tend to be present in limestone or dolomite bedrock and are extremely variable in nature. Local, site-specific studies are required to identify karst formations.

As with **unstable soils**, the potential for development to be undertaken safely in an area of unstable bedrock is site specific. Section 5.0 of the Hazardous Sites Technical Guide prepared by MNR (1996) provides important guidance in this regard.

10.3 Guidelines for Hazardous Lands Associated with Organic Soils and Unstable Bedrock

When reviewing applications for development in **hazardous lands**, the following guidelines shall apply:

10.3.1 In general, **development** shall not be permitted within **hazardous lands** associated with **unstable soils** or unstable bedrock.

10.3.2 Notwithstanding 10.3.1, the Authority may grant permission for **development** within **hazardous lands** associated with organic soils and unstable bedrock, provided that:

(a) no reasonable alternative location for the development exists outside the hazardous lands; and

(b) the proposed **development** is supported by the completion of a Geotechnical Study to the satisfaction of the Authority; and

(c) the proposed **development** be designed to address the hazards and risks associated with the site as identified by the Geotechnical Study.

Chapter 11: Glossary

The following glossary provides definitions for terms used in this document:

A

Accepted Engineering Principles: means those current coastal, hydraulic, hydrology and geotechnical engineering principles, methods and procedures that would be judged by a peer group of qualified engineers (by virtue of their qualifications, training, and experience), as being reasonable for the scale and type of project being considered, the sensitivity of the locations and the potential threats to life and property.

Access: means a primary route of ingress and egress to a property (e.g., a driveway, laneway and/or a municipal or provincial roadway).

Accessory Structure: means a secondary, freestanding, non-habitable building, or structure on the same lot as the main building to which it is subordinate, devoted exclusively to a use normally incidental to the main use of the premises (e.g., garden sheds, tool sheds and gazebos).

Adjacent Lands: means those lands, contiguous to a specific natural heritage feature or area, where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives.

Adverse Effects: means one or more of:

(a) impairment of the quality of the natural environment for any use that can be made of it;

(b) injury or damage to property or plant or animal life;

(c) harm or material discomfort to any person;

(d) an adverse effect on the health of any person;

(e) impairment of the safety of any person;

(f) rendering any property or plant or animal life unfit for human use;

(g) loss of enjoyment of normal use of the property; and

(h) interference with normal conduct of business. (Environmental Protection Act, 1990). Provincial Policy Statement, 2014

Alteration to a Watercourse: means the straightening, changing, diverting or interfering in anyway with the existing channel of a river, creek, stream or watercourse.

Apparent Valley (Confined): means a watercourse located within a valley corridor, either within or without a flood plain, and is confined by valley walls.

Average Annual High-Water Mark: means the highest lake level on average for any given year. For Lake Simcoe, the Average Annual High-Water Mark is 219.15 metres a.s.l. geodetic.

B

Basement: means one or more storeys of a building located below the first storey.

Boathouse: A building that is designed and used solely for the purpose of storing and docking boats and related equipment. The structure does not contain habitable space, water and/or sanitary servicing and has an opening to the water of an appropriate size to accommodate a boat.

Buffer: means an area or band of permanent vegetation, preferably comprised of native species, located adjacent to a natural heritage feature and usually bordering lands that are subject to development and site alteration. The purpose of the buffer is to protect the feature and its function(s) by mitigating the impacts of the proposed land use and allowing for edge phenomena to continue.

C

Confined Systems: are those where the watercourse is located within a valley corridor, either with or without a flood plain, and is confined by valley walls.

Conservation Authority: means a body corporate formed under the *Conservation Authorities Act* R.S.O. 1990, Chapter 27 (or its predecessors) at the request of the member municipalities.

Conservation of Land: means the protection, management or restoration of lands within the watershed ecosystem for the purpose of maintaining or enhancing the natural features and hydrologic and ecological functions within the watershed (Conservation Ontario, 2008). The Mining and Lands Commissioner has ruled that the **conservation of land** includes all aspects of the physical environment, be it terrestrial, aquatic, biological, botanic or air and the relationship between them.

D

Derelict building: means a building or structure which is empty and in a bad state of repair because it has not been used or lived in for a long time.

Development: means,

(a) the construction, reconstruction, erection or placing of a building or structure of any kind,

(b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure, or increasing the number of dwelling units in the building or structure,

(c) site grading, or

(d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere (Conservation Authorities Act, R.S.O. 1990).

Drainage Area: means for a point, the area that contributes runoff to that point.

Dry Flood-proofing: See Flood-proofing.

Dyke: means an embankment constructed to prevent flooding of adjacent lands.

Dynamic Beach Hazard: means areas of inherently unstable accumulations of shoreline sediments along the Great Lakes - St. Lawrence River System and large inland lakes, as identified by provincial standards, as amended from time to time. The dynamic beach hazard limit consists of the flooding hazard limit plus a dynamic beach allowance (Provincial Policy Statement, 2014).

E

Ecological Function: means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes.

These may include biological, physical and socio-economic interactions. (Provincial Policy Statement, 2014).

Emergency Works: are defined as those works that are being completed to avoid the immediate threat of loss of life or catastrophic property damage (e.g., the repair of a washed-out road).

Environmental Impact Study (EIS): means a report prepared by a qualified professional (biologist, ecologist) to address the potential impacts of development on natural heritage features and areas. The types of EIS studies include:

(a) **Comprehensive EIS**: a landscape scale study which identifies natural heritage features for protection, potential development areas and development setbacks that are ecologically sustainable.

(b) **Scoped EIS:** an area specific study that addresses issues of particular concern not previously addressed in sufficient detail in a comprehensive study. The factors which may be considered for a scoped EIS include:

- the extent of the encroachment;
- the potential impact of the use; and
- the sensitivity of the feature.

Erosion: is a natural process which results in the continual loss of earthen material (i.e., soil) over time as a result of water and wind.

Erosion Access Allowance: means the setback needed to allow people and equipment the ability to access erosion prone areas for regular maintenance and access to the site in the event of erosion or failure of as structure. The erosion access allowance should be at least 6 metres in width and should be applied within all confined and unconfined river and stream systems.

Erosion Hazard: means the loss of land, due to human or natural processes, that poses a threat to life and property. The erosion hazard limit is determined using considerations that include the 100-year erosion rate (the average annual rate of recession extended over a one hundred year time span), an allowance for slope stability, and an erosion/erosion access allowance. (Provincial Policy Statement, 2014).

Essential Emergency Services: means services which would be impaired during an emergency as a result of flooding, the failure of flood-proofing measures and/or protection works, and/or erosion.

F

Fill: means earth, sand, gravel, rubble, rubbish, garbage, or any other material whether similar to or different from any of the aforementioned materials, whether originating on the site or elsewhere, used or capable of being used to raise, lower, or in any way affect the contours of the ground.

Flooding Hazard: means the inundation, under the conditions specified below, of areas adjacent to a shoreline or a river or stream system and not ordinarily covered by water:

(a) along the shorelines of the Great Lakes-St. Lawrence River System and large inland lakes, the flooding hazard limit is based on the one-hundred-year flood level plus an allowance for wave uprush and other water related hazards;

(b) along river, stream and small inland lakes, the flooding hazard limit is the greater of

1. the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area;
2. the one-hundred-year flood;
3. a flood which is greater than 1) or 2) which was actually experienced in a particular watershed or portion thereof as a result of ice jams and which has been approved as the standard for that specific area by the Minister of Natural Resources;

except where the use of the one-hundred-year flood or the actually experienced event has been approved by the Minister of Natural Resources as the specific watershed (where the past history of flooding supports the lowering of the standard). (Provincial Policy Statement, 2014).

Flood plain: means the area, usually lowlands adjoining a watercourse, which has been, or may be covered by flood waters.

Flood-proofing: means a combination of structural changes and/or adjustments incorporated into the basic design and/or construction or alteration of individual buildings, structures or properties subject to flooding used to reduce or eliminate flood damages. (Flood Plain Planning Policy Statement, 1988). Total protection of buildings or structures cannot always be assured. There are three different types of flood-proofing: dry-passive flood-proofing, dry active flood-proofing and wet flood-proofing.

(a) **Dry Passive Flood-proofing –** includes the use of fill, columns, or design modifications to elevate openings to the building or structure at or above the level of the flood hazard. These measures do not require flood warning or any other action to put the flood protection measures into effect.

(b) **Dry Active Flood-proofing –** includes techniques such as installing watertight doors, seals or floodwalls to prevent water from entering openings to the structure of building below the level of the flood hazard. Advance warning is almost always required to make the flood protection operational (i.e., closing of watertight doors, installation of flood shields).

(c) **Wet Flood-proofing –** involves designing a building or structure using materials, methods and design measures that maintain structural integrity by avoiding external unbalanced forces from acting. Buildings and structures are designed so as to intentionally allow flood waters to enter and exit, ensuring the interior space below the level of the flood hazard remains unfinished, non-habitable and free of services.

Flood way: means the channel of a watercourse and that inner portion of the flood plain where flood depths and velocities are generally higher than those experienced in the flood fringe. The flood way represents that area required for the safe passage of flood flow and/or that area where flood depths and/or velocities are considered to be such that they pose a potential threat to life and/or property damages.). Where the one zone concept is applied, the flood way is the entire flood plain.

Freeboard Allowance: means a vertical distance (0.3 metres) added to the flood elevation to accommodate uncertainties in the calculation of the flood elevation, waves, surges and other natural phenomena.

G

Gross Floor Area: means, the total area of all floors measured between the outside surfaces of exterior walls and includes a basement.

H

Habitable: that portion of a building containing rooms or spaces required and intended for overnight occupancy and associated living space, and includes those portions which contain facilities for storage, heating, air-conditioning, plumbing, electrical, hot water supplies, which are necessary to maintain the habitable condition.

Hazardous Land: means property or lands that could be unsafe for development due to naturally occurring processes. Along the shorelines of large inland lakes, this means the land, including that covered by water, between a defined offshore distance or depth and the furthest landward limit of the flooding hazard, erosion hazard or dynamic beach hazard limits. Along river, stream and small inland lakes systems, this means the land, including that covered by water, to the furthest landward limit of the flooding hazard or erosion hazard limits (PPS, 2014).

Hazardous Sites: means property or lands that could be unsafe for development and site alteration due to naturally occurring hazards. They may include unstable soils (sensitive marine clays [leda], organic soils) or unstable bedrock (karst topography) (PPS, 2014).

Hazardous Substances: means substances which, individually, or in combination with other substances, are normally considered to pose a danger to public health, safety, and the environment. These substances generally include a wide array of materials that are toxic, ignitable, corrosive, reactive, radioactive, or pathological (PPS, 2014).

Hearing: means a hearing held under Section 28(12) of the *Conservation Authorities Act.*

High Water Mark: means the mark made by the action of water under natural conditions on the shore or bank of a water body, which action has been common and usual and so long continued that it has created a difference between the character of the vegetation or soil on one side of the mark and the character of the vegetation or soil on the other side of the mark.

Hydrologic Function: means the functions of the hydrologic cycle that include the occurrence, circulation, distribution, and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

|

Incrementally Balanced Cut and Fill: means all fill placed at or below the flood elevation must be compensated for by the removal of an equal volume of fill from the same incremental elevation above the flood elevation within the same reach of a watercourse. Cut and fill calculations are to be based on 0.3 metre elevation increments.

Infrastructure: means physical structures (facilities and corridors) that form the foundation for development (e.g., sewage and water systems, septage treatment systems, storm water management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities) (Provincial Policy Statement, 2014).

Institutional Uses: means land uses where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a result of flooding, failure of flood-proofing measures or protection works, or erosion (PPS, 2014).

Intensification: means the development of a property, site or area at a higher density than currently exists through,

(a) Redevelopment, including the reuse of brownfield sites;

(b) The development of vacant and/or underutilized lots within previously developed areas;

(c) Infill development;

(d) The expansion or conversion of existing buildings. (Provincial Policy Statement, 2014); and

(e) The addition of a second dwelling unit.

Interference in Any Way: means any anthropogenic act or substance which hinders, disrupts, degrades, or impedes in any way the natural features or hydrologic and ecological functions of a wetland or watercourse (Conservation Ontario, 2008).

Intermittent Watercourse: means watercourses that contain water or are dry at times of the year that are more or less predictable, generally flowing during wet seasons of the year but not the entire year, and where the water table is above the stream bottom during parts of the year (Greenbelt Plan, 2005).

J

K

L

Large Scale Fill Placement: as defined by the Authority is considered to be the placement of 250 cubic metres of fill or more.

M

Major Development: means development consisting of the construction of a building or buildings with a ground floor area of 500 metres^2 or more. (Lake Simcoe Protection Plan, 2009)

Meander Belt Allowance: means the maximum extent that a water channel migrates. The meander belt allowance is defined as 20 times the bank full channel width of the reach and centred on the meander belt axis or as defined by a study completed by a qualified geomorphologist using accepted technical principles (Understanding Natural Hazards, 2001).

N

O

Observed Flood Event: means a flood event that was actually experienced in a particular watershed or portion thereof.

One Hundred Year Flood (1:100 Year): for river, stream and small inland lake systems, means that flood, based on an analysis of precipitation, snowmelt or a combination thereof, having a return period of 100 years on average, or having a 1% chance of occurring or being exceeded in any given year. For large inland lakes, lake levels and wind setups that have a 1% chance of being equalled or exceeded in any given year, except that, where sufficient water level records do not exist, the one-hundred-year flood level is based on the highest known water level and wind setup.

One Zone Concept: means the approach whereby the entire flood plain, as defined by the regulatory flood, is treated as one unit, and all development is prohibited or restricted. (Flood Plain Planning Policy Statement, 1988). This is the most effective way of minimizing threats to public health and safety or property damages. The one zone concept is the preferred approach for the management of flooding hazards within river and stream systems as it provides the most cost-effective means of minimizing potential threats to life and risks to property damage and social disruption.

Other Lands: means those lands adjacent to wetlands which exhibit a significant role in supporting the hydrologic functions of the wetland, where development could interfere with the hydrologic function of the wetland. Typically, these “other areas” are associated with the wetland through high ground water elevations, springs, seeps, vegetation, organic soils, or some other significant inter-relationship. Other lands are located within 120 metres of a provincially significant wetland and 30 metres of all other wetlands.

Other Water-related Hazards: means water-associated phenomena other than flooding hazards and wave uprush which act on shorelines. This includes, but is not limited to ship-generated waves, ice piling and ice jamming (Provincial Policy Statement, 2014).

Other Wetlands: means any wetland that meets the definition of a wetland as defined by the

Conservation Authorities Act that has not designated as a provincially significant wetland.

P

Permanent Stream: means a stream that continually flows during an average year (Green Belt Plan, 2005).

Permit: means written approval to undertake work in a regulated area issued by a Conservation Authority under the *Conservation Authorities Act*.

Pollution: means any deleterious physical substance or other contaminant which has the potential to be generated by development in an area where the Authority's regulation applies (Conservation Authorities Act R.S.O. 1990).

Protection Works: means the combination of non-structural or structural works and allowances for slope stability and flooding/erosion to reduce the damage caused by flooding hazards, erosion hazards and other water related hazards, and allow access for their maintenance and repair.

Q

R

Reconstruction: means the restoration, repair or replacement of a building or structure within its original footprint, not to exceed its original ground floor area, gross floor area or height, and without any change to its original use.

Redevelopment: means the creation of new units, uses or lots on previously developed land in existing communities, including brownfield sites (Provincial Policy Statement, 2014).

Regulation Limit: means the greatest extent of all regulated areas that define the hazards which are applicable to a property. The regulation limit does not represent the development limit.

Regulatory Flood: means the approved standard(s) used in a particular watershed to define the flood plain for regulatory purposes.

Regulatory Flood Plain: means the approved standard(s) which Is used in a particular watershed to define the limits of the flood plain for regulatory purposes.

S

Safe Access (Safe Access/Egress): means vehicular and pedestrian access to and from a site to lands above the regulatory flood plain is safe from the risks due to flooding and/or erosion hazards consistent with Authority standards.

This is further defined as follows:

For vehicular access routes (e.g., municipal roadways and private rights-of-way) safe access will be considered to be available if the depth of flooding at the regulatory flood level along the full length of the travelled surface of the access route or right-of-way is no greater than 0.3 metres.

For pedestrian access routes (e.g., private laneways, driveways and walkways between residences and vehicular access routes) safe access will be considered to be available if the depth of flooding at the regulatory flood level along the entire length of the access route is no greater than 0.3 metres and the depth multiplied by the flow velocity does not exceed 0.4 m^2/second. Furthermore, the access route must be clearly demarcated and visible during a flood event.

Site Alteration: means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site (Provincial Policy Statement, 2014).

Special Policy Area: means an area within a community that has historically existed in the flood plain and where site-specific policies, approved by both the Ministers of Natural Resources and Municipal Affairs and Housing, are intended to provide for the continued viability of existing uses (which are generally on a small scale) and address the significant social and economic hardships for the community that would result from strict adherence to provincial policies concerning development. The criteria and procedures for approval are established by the Province. A Special Policy Area is not intended to allow for new or intensified development and site alteration, if a community has feasible opportunities for development outside the flood plain (Provincial Policy Statement, 2014).

Specialty Crop Area: means areas designated using guidelines developed by the Province, as amended from time to time. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other field crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil, usually resulting from:

(a) soils that have suitability to produce specialty crops, or lands that are subject to special climate conditions, or a combination of both;

(b) Farmers skilled in the production of specialty crops; and

(c) A long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store or process specialty crops (Provincial Policy Statement, 2014).

T

Toe Erosion Allowance:

15 metre toe erosion allowance: Where the toe of the valley wall is subject to active erosion OR is within 15 metres of the watercourse, a toe erosion allowance has to be applied. The toe erosion allowance should be measured inland horizontally and perpendicular to the toe of the watercourse slope. The proximity of the watercourse to the base of the valley wall can be determined from aerial photography or site investigations.

stable slope allowance: A horizontal allowance measured farther landward (horizontal and perpendicular) from the toe of the watercourse or from the toe erosion allowance (if applicable) equivalent to at least 3.0 times the height of the slope.

OR

A stable slope allowance determined by a study using accepted geotechnical principles.

E**rosion access allowance:** To be applied within all confined, unconfined and terrain- dependent river and stream systems. The erosion access allowance is required to provide emergency access to erosion prone areas. The minimum erosion access allowance for river and stream systems is **6 metres.**

Toe of Slope: means the lowest point on a slope, where the surface gradient changes from relatively shallow to relatively steep.

Top of Slope: means the point of the slope where the downward inclination of the land begins, or the upward inclination of the land levels off. This point is situated at a high topographic elevation than the remainder of the slope.

Top of Stable Slope: means the physical top of slope where the existing slope is stable and not impacted by toe erosion; or the landward limit of the toe erosion allowance plus the stable slope allowance where the existing slope is unstable and/or impacted by erosion.

Two Zone Concept: means the approach whereby certain areas of the flood plain are considered to be less hazardous than others such that development potentially could safely occur. The flood fringe defines that portion of the flood plain where development may be permitted, subject to appropriate flood-proofing. The flood way defines that portion of the flood plain wherein development is prohibited or restricted. (Flood Plain Planning Policy Statement, 1988)

U

Unconfined Systems: are those systems where the watercourse is not located within a valley corridor with discernable slopes, but relatively flat to gently rolling plains and is not confined by valley walls. (Understanding Natural Hazards, 2001).

Unstable Soils*:* include organic and peat soils as well as sensitive marine clays (e.g., leda clays) or organic soils (MNR & Conservation Ontario, 2005). Leda clay deposits are not known to be present within the Authority watershed. Organic and peat soils are found within the Authority watershed.

V

Vegetation Protection Zone: means a vegetated buffer area surrounding a key natural heritage feature or key hydrologic feature within which only those land uses permitted within the feature itself are permitted. The width of the vegetation protection zone is to be determined when new development or site alteration occurs within 120 metres of a key natural heritage feature or key hydrologic feature and is to be of sufficient size to protect the feature and its functions from the impacts of the proposed change and associated activities that will occur before, during, and after, construction, and where possible, restore or enhance the feature and/or its function.

W

Watercourse: means a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs.

Watershed: an area drained by a river and its tributaries *(Conservation Authorities Act*, R.S.O. 1990).

Wave Uprush: means the rush of water up onto a shoreline or structure following the breaking of a wave; the limit of wave uprush is the point of furthest landward rush of water onto the shoreline (Provincial Policy Statement, 2014).

Wetlands: are defined as lands that are:

(a) seasonally or permanently covered by shallow water or has a water table close to or at its surface,

(b) directly contributes to the hydrologic function of a watershed through connection with a surface watercourse,

(c) has hydric soils, the formation of which has been caused by the presence of abundant water, and

(d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause (c) or (d).

Wind Setup: means the vertical rise above the normal static water level on the leeward side of a body of water caused by wind stresses on the surface of the water.

Chapter 12: References

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Chapter 13: Appendices

Appendix "A": Conservation Authorities Act, Part VI &VII

Available at Government of Ontario

Appendix "B": Ontario Regulation 41/24

Available at O. Reg. 41/24: PROHIBITED ACTIVITIES, EXEMPTIONS AND PERMITS (ontario.ca)

Appendix "C": Schomberg Special Policy Area

(Source: Schomberg Community Plan - Township of King, November 1, 1998, pp. 3-5 - 3-8)

Appendix "C"

Schomberg Special Policy Area

(Source: Schomberg Community Plan - Township of King, November 1, 1998, pp. 3-5 - 3-8)

Permitted Uses:

No new development shall be permitted to locate within the Special Policy Area where:

i. The use involves the sale and/or storage of chemical or hazardous or toxic substances which, under flood conditions or failure of flood proofing measures, would pose an unacceptable risk to public safety in the event of discharge from the normal containment device or facility;

ii. The use is associated with institutional services, such as hospitals, nursing homes, children's daycare centre, and schools which, under flood conditions or failure of flood proofing measures, a significant threat to safety of the inhabitants would exist if involved in an emergency evacuation; or,

iii. The use is associated with the provision of fire and police protection, ambulance or other emergency services, electrical substances or other similar utilities which would be impaired during an emergency as a result of flooding or the failure of flood proofing measures.

Policies:

a. The placing or removal of fill of any kind, whether originating on the site or elsewhere, construction in the flood plain, or the alteration of any kind of watercourse shall not be permitted within a Special Policy Area without the approval of the Lake Simcoe Region Conservation Authority in consultation with the Township of King pursuant to the provisions of Section 28 of the Conservation Authorities Act.

   The alteration of any watercourse will require the approval of the Ministry of Natural Resources pursuant to the provisions of the Lakes and Rivers Improvement Act, R.S.O., 1980.

b. Prior to the issuance of a building permit, the Township of King shall consult with the Lake Simcoe Region Conservation Authority regarding the administration of the Authority's Fill, Construction and Alteration to Waterways Regulations made under the Conservation Authorities Act, R.S.O., 1990, c.27, and, to assess any proposed or necessary flood damage reduction measures which may include such matters as:

   i. The design of the structure to withstand hydrostatic forces;

   ii. The strength of structural materials and components to ensure that the materials used will not be subject to deterioration from flooding;

   iii. The elevation of living space and exterior building openings relative to the Regulatory Flood as defined in Section 3.3.3.c of this Plan;

   iv. The location and elevation of electrical and heating equipment relative to the Regulatory Flood as defined in Section 3.3.3.c of this Plan;

   v. the location, elevation and design of municipal services and public utilities;

   vi. The design of the structure to ensure that the interior ground floor level elevation is as close as possible or above the regulatory Flood level as defined in section 3.3.3c of this Plan; and,

   vii. Such other traditional damage reduction measures as may be warranted in the context of the location and nature of the proposed building or structure.

c. All new buildings and structures, additions to existing buildings or structures, or, the renovation and/or reconstruction of any existing structure shall, whenever practical, be protected from flooding to the level of the Regulatory Flood. However, if it is demonstrated that the specific level of protection is not attainable, then a lesser level of protection will be determined by the Lake Simcoe Region Conservation Authority in consultation with the Township of King.

   In establishing the level of protection, the Lake Simcoe Region Conservation Authority and the Council of the Township of King shall have regard for the nature and characteristics of development on adjacent lands with specific regard for existing openings and floor elevations, and the elevation of abutting streets and/or sidewalks and the desirability of maintaining a uniform appearance in building elevations.

Notwithstanding any other provision of this Plan to the contrary, the minimum level of flood protection for those lands designated within the Special Policy Area shall not be less than one metre above the 1:100-year flood elevation. For the purposes of this Plan, the 1:100-year flood elevation is defined as the level of flooding associated with a flood event which has a return period of 100 years on average or which has a one per cent chance of occurring or being exceeded in any given year.

d. Accessory buildings, structures and uses which are normally considered incidental and subordinate to a principal permitted use, exclusive of buildings intended for human habitation, may be exempted from certain flood proofing measures subject to the approval of the Lake Simcoe Region Conservation Authority in consultation with the Township of King.

e. Notwithstanding the provisions of subsections a., b., c., or d. hereof to the contrary, no new buildings or structures inclusive of additions to existing structures, shall be permitted within the Special Policy Area designation where, after consulting with the Lake Simcoe Region Conservation Authority, Council determines that such structures would be subjected to flows which, due to their velocity and/or depth, would result in an unacceptable high risk to human like or major structural damage as a result of a flood less than or equal to the Regulatory Flood.

f. Council shall undertake, with the Ministry of Transport, to investigate the feasibility of improved drainage works in the vicinity of Highway No. 9 which would reduce the potential impact of flooding in the Main Central Area and adjacent lands.

g. Notwithstanding any other provision of this Plan to the contrary, no building permit shall be issued by the Township of King for any building or structure located within the Special policy Area until such time as the Township of King has been advised , in writing, by the Lake Simcoe Region conservation Authority of the approval of the application as required under the Fill, Construction and Alteration To Waterways Regulations made under the Conservation Authorities Act, R.S.O., 1990, c.27.

h. In accordance with the provisions of Section 8.8 of this Plan, Council may, following consultation with the Lake Simcoe Region Conservation Authority, require that the proponent enter into a Site plan Agreement with the township of King in accordance with Section 41 of the Planning Act R.S.O., 1990., Chapter

P. 13, as amended. Where Council considers it necessary to require a site plan agreement, the agreement shall contain a provision which requires that notice, in a form satisfactory to the Township and the Conservation Authority, be given to prospective tenants and/or owners that the lands are located within an area which is susceptible to flooding.

i. Where a building permit is issued for a new building or structure or he renovation or reconstruction of an existing building or structure within the Special Policy Area following adoption of this Plan, the Township of King will require, prior to the issuance of a Certificate of Occupancy and/or Letter of Compliance, that the owner provide to the Municipality a reporting letter, prepared by a professional Engineer or Ontario Land Surveyor, which verifies that the floor level and minimum elevation of any exterior openings conform with the requirements of the Lake Simcoe Region Conservation Authority, that all flood proofing measures specified by the Authority have been implemented in conformity with the policies of this Plan, and that the applicable requirements of the zoning by-law have been complied with.

j. Council shall undertake, upon approval of the Schomberg Community Plan, to amend forthwith the comprehensive zoning by-law of the Township of King as far as is necessary to identify the boundary and extent of the flood susceptible areas affected by this Special Policy Area designation. The regulatory provisions established under the zoning by-law shall specify that the area is subject to the Special Policy Area provisions of this Plan and the Fill, Construction and Alteration To waterways Regulations made under the Conservation Authorities Act, R.S.O., 1990, Chapter C.27.

It shall further be the policy of this Plan that the implementing zoning by-law shall contain provisions, where appropriate, relating to building setbacks, maximum lot coverage, the minimum elevation of exterior openings or such other matters as may be determined by the Council of the Township of King in consultation with the Lake Simcoe Region Conservation Authority.

Appendix "D": Pre-Consultation and Permit Application Check List

Pre-Consultation and Permit Application Check List

The following checklist has been compiled by the Lake Simcoe Region Conservation Authority (Authority) in order to assist applicants with thepreparation of a complete permit application..

The Authority encourages pre-consultation with staff at the beginning of the permit process to ensure complete applications to enable a quick and efficient review.Please contact Authority staff before applying to discuss the application requirements.

General Information:

Municipal Address and/or Roll Number/Legal Description of Location, and/or APID:

_____

Landowner:_____ Agent:_____

Start & complete dates:_____ Contact:_____

Pre-Consultation Date:_____ Permit Type & Fee:_____

Proposed Works:

_____

_____

The location of your proposed development is regulated for the following:

	Erosion Hazard (confirmed)		Regulatory Floodplain
	Erosion Hazard (Unconfirmed)		
	Wetlands		Adjacent Lands Other Wetlands (30m)
			Lake Simcoe Shoreline Hazards (flooding, erosion, other water related hazards)

Components of a Complete Application:	**Required**	**Received**	**Notes:**
Completed application form, signed, anddated by the applicant			
Application fee $			
Landowner authorization form			

Components of a Complete Application:	**Required**	**Received**	**Notes:**
One digital set of thefollowing:			
Detailed Site Plan (showing existing and proposed structures and the location of theproposed development in relation to other significant features)			
Drainage/Grading Plan (pre and post development)			
Cross-section Plan (existing and proposedgrades and/or finished floor/opening elevations, etc.)			
Amount and type of fill required for theproposed development			
Erosion and Sediment Control Plan			
Topographic Survey (prepared by a certifiedOntario Land Surveyor in geodetic format)			
Additional Technical Requirements			
Engineered Cut/Fill Analysis			
Hydraulic Analysis			

Structural Engineering report/letter/drawings			
Stormwater Management Report/Plan			
As-built survey			
Geotechnical Investigation and/or SlopeStability Study			
Environmental Impact Study			
Wetland delineation site inspection			
Planting/Restoration Plan			

Components of a Complete Application	**Required**	**Received**	**Notes:**
Costal Engineering Report			
Geomorphological Assessment			
Hydrogeological Assessment			
Fill quality Report*			

*Projects involving large fill require more detailed information to be submitted. The site-specific guidelines for large fill are included in Section 4.3 of the Authority's Implementation Guidelines. A separate list of requirements will be provided.

Disclosure:

Lake Simcoe Region Conservation Authority uses the Implementation Guidelines in its review of all permit applications, which provides detailed policy guidance in relation to our legislated and delegated roles and responsibilities as the representative of the provincial interest for natural hazards.

Implementation Guidelines

Proposals and details may change throughout the pre-consultation process and as such, staff may determine that additional information, materials, and/or fees will be required during the course of theapplication review process. Staff will provide an explanation of the changes if this occurs.

Appendix "E": Dyke Construction Guidelines

Dyke Construction Guidelines

June 2014

- Existing dykes can be widened in accordance with the preferred layout detail (see Page 2).

- Existing dykes that already exceed the width of the preferred detail must be maintained at the current width.

- The following options are available for setting top of dyke elevations:

  - Option 1 – Raise the top of dyke to a higher elevation than currently exists for the dyke system in the immediate area. A study will need to be completed showing that the new higher top of dyke will not impact on flood levels or obstruct flows. The terms of reference for such a study will need to be reviewed and approved by the Authority.

  - Option 2 - Maintain the dyke elevation at the same elevation as what currently exists for the dyke system in the immediate area. Sufficient information will need to be available showing that, in general, the proposed dyke elevation will match the original dyke elevation.

- Dykes must be constructed out of suitable clean material in accordance with the Authority's fill policies. Material used must conform with the following basic criteria:

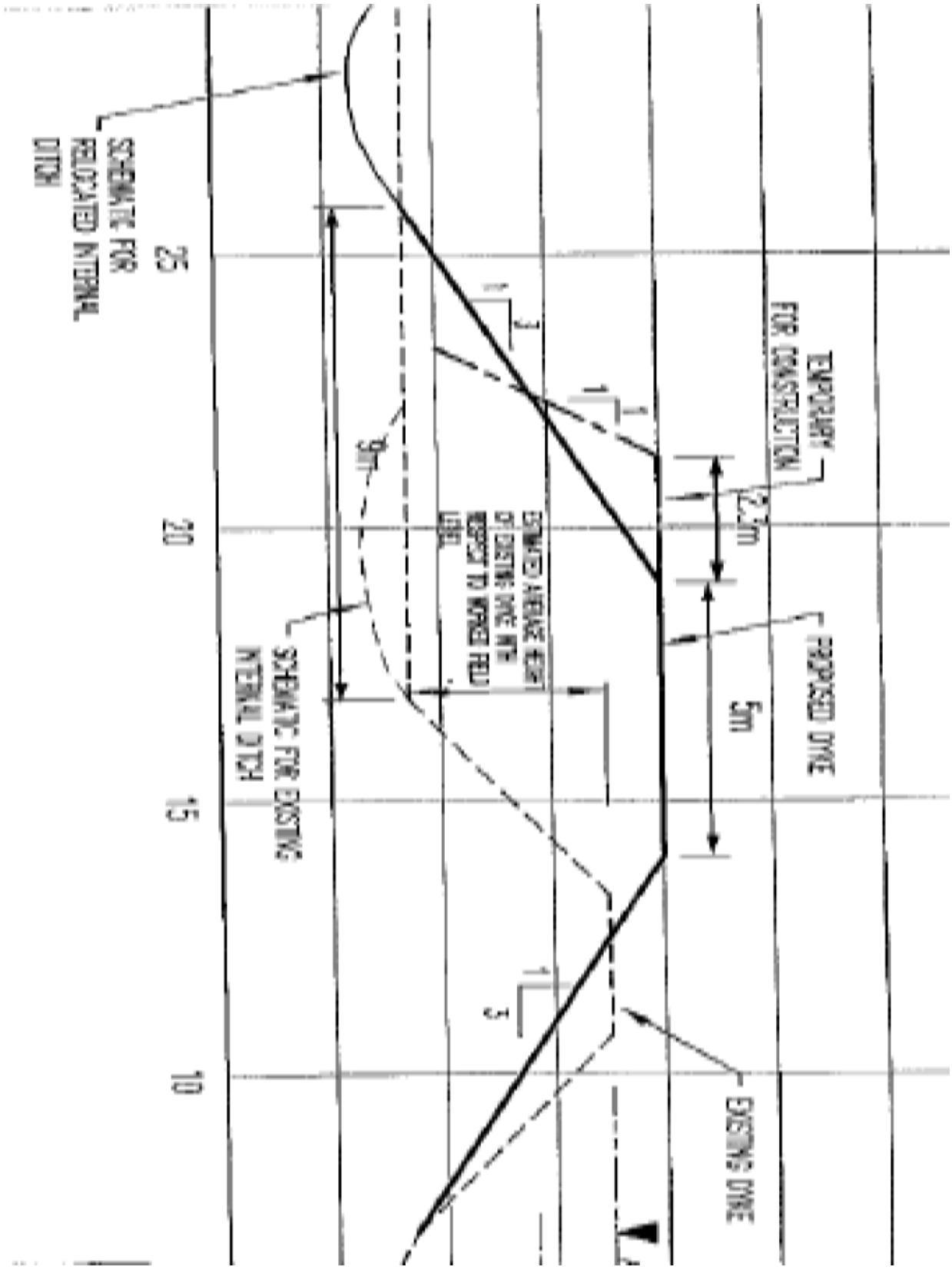
  - A clean clay/silt material is to be used with minimum clay and silt content of 35%.

  - Topsoil thickness of 150 to 200mm, seeded using a mixture of 5% White Clover, 20% Perennial rye, 20% Tall Fescue, 15% Creeping Red Fescue, 10% Timothy,10% Kentucky Bluegrass,20% Annual Ryegrass. Topsoil and seeding are to be done within 30 days of construction.

- Dyke construction must be done in a proper and workmanlike manner.

- The newly constructed dyke shall not encroach further into the Holland River. An energy dissipation system should be incorporated on the river side to minimize shoreline erosion.

- We strongly encourage pre-consultation prior to the submission of permit applications.


SCHEMATIC FOR RELOCATED INTERNAL DITCH
25
20
15
10
TEMPORARY FOR CONSTRUCTION
12.2m
5m
PROPOSED DYKE
EXISTING DYKE
ESTIMATED AVERAGE HEIGHT OF EXISTING DYKE WITH RESPECT TO ADJACENT FIELD LEVEL
SCHEMATIC FOR EXISTING INTERNAL DITCH
3
1
1
1
1
3
9m