



PLANNING & REGULATION POLICIES AND GUIDELINES

October 2011

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1 Introduction

Along with providing clarity to the reader on how this document should be read, this section also provides a background on the Hamilton Conservation Authority (*HCA*), the legislation that governs the *Authority's* decisions, the planning approach of the *HCA* and its objectives, and the guidelines that *Authority* staff follow when making decisions and recommendations.

1.1 How to Read This Document

A policy-oriented planning system should work to recognize the multiple inter-relationships that exist between the environmental, physical, social, and economic factors influencing land use planning. The Planning & Regulation Policies and Guidelines document supports and recognizes linkages among policy areas and therefore this document is more than a set of individual policies and guidelines.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. A decision-maker should read all of the relevant policies as if they are specifically cross-referenced with each other. While specific policies sometimes refer to other policies for ease of use, these cross-references do not take away from the need to read this document as a whole.

There is no implied priority in the order in which the policies and guidelines appear.

This document consists of:

Section 1: A background on *HCA*, legislation and policy governing *HCA*, the planning approach and objectives, and the planning review process.

When reviewing planning and regulation proposals, *Authority* staff utilize policies and guidelines found in the following sections:

Section 2: Natural Hazard Policies

Section 3: Natural Heritage Policies

Section 4: *Development* Adjacent to *HCA* Land Holdings

Section 5: *Fill* Placement and Grade Modification

Section 6: *Pond* Construction

Section 7: Minor *Development* Exemptions

Section 8: *Floodproofing* Guidelines

Section 9: Erosion and Sediment Control Guidelines

Section 10: Vegetation Plan Policies and Guidelines

Section 11: Source Water Protection Planning Policies

Section 12: Stormwater Management Planning Policies

The following sections are included to provide clarity and direction to the reader:

Section 13: Definitions for italicized words

Section 14: A selected bibliography of referenced documents

Section 15: Appendices that relate to various policy requirements

1.2 HCA Background

The Hamilton Conservation Authority (*HCA*) is located at the western end of Lake Ontario and encompasses the majority of the City of Hamilton, and portions of the Town of Grimsby and Township of Puslinch. The *HCA* is responsible for approximately 477 square kilometres of *watershed* area, with a population of almost 400,000 people. Our responsibilities involve: managing water resources within our *watershed* area to maintain water quality and quantity; preventing unacceptable risk to public safety and to property damage due to natural hazards; preserving *natural heritage features and areas* for their economic, environmental, and social benefits; providing plan review input to local municipalities; efficient management of recreational resources; and the development and delivery of environmental education programs.

The *HCA* was first created in 1958 as a result of petitions to the Province by the Townships of Puslinch, East Flamborough, West Flamborough, Beverly, and Ancaster and the Town of Dundas to establish a *watershed* unit charged with the responsibility of water resource management. The request was approved and the Spencer Creek Conservation Authority, having jurisdiction over the Spencer Creek *watershed*, was created June 1958. The area of jurisdiction was expanded in 1966 to include parts of the City of Hamilton and the City of Stoney Creek consequently creating the Hamilton Region Conservation Authority (HRCA). In addition to the Spencer Creek *watershed* the HRCA then encompassed the watersheds of Red Hill Creek, Stoney Creek, Battlefield Creek, and the numbered *watercourses* in the City of Stoney Creek.

The *HCA watershed* area now reaches from Fifty Point across to the Township of Puslinch in Wellington County (Figure 1). In 2000, with the amalgamation of the City of Hamilton, City of Stoney Creek, Town of Glanbrook, Town of Ancaster, Town of Dundas, and Town of Flamborough, the name of the Conservation Authority was changed to the Hamilton Conservation Authority for administrative purposes. For legal purposes, however, the name remains unchanged.

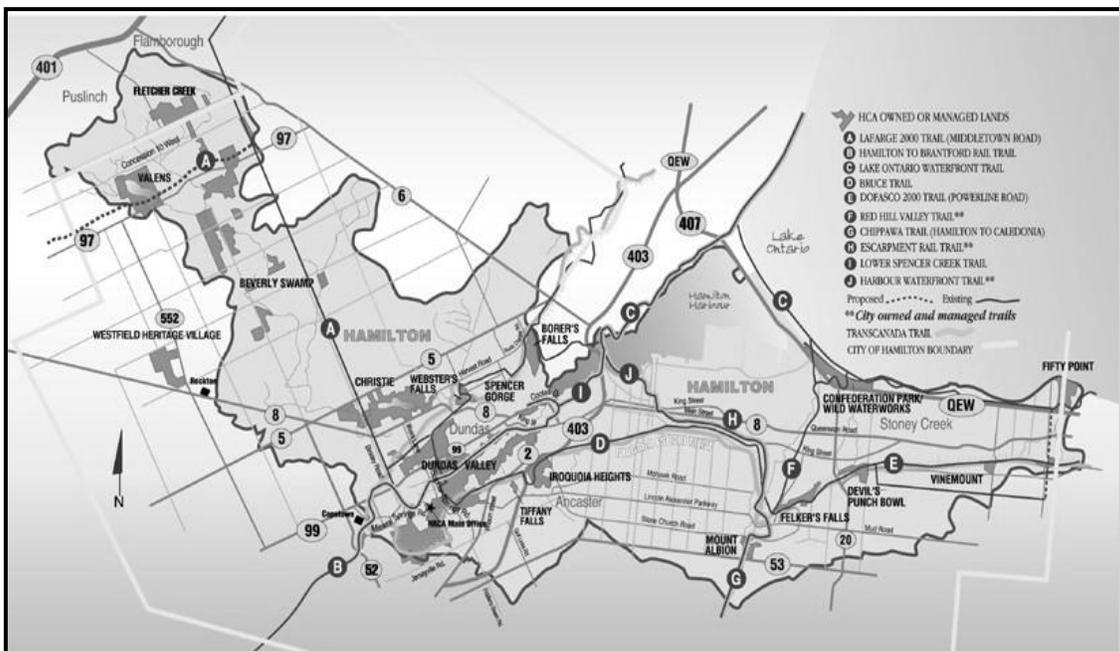


Figure 1: HCA Watershed Area

1.3 Legislative and Policy Background

The following section outlines the legislation that governs decisions and recommendations of the *Authority*. They span all levels of government and may be applied concurrently at various stages of both the regulatory and planning processes. The first two sub-sections are specific to the *Authority's* mandate, while the following sub-section is additional legislation that *Authority* staff utilize when reviewing planning and regulation applications.

1.3.1 Description of Conservation Authority Role and Activities

Created in 1946, the Conservation Authorities Act (CA Act) provides the legal basis for actions associated with renewable natural resource management as undertaken by the *HCA*. Initiated in response to erosion and flooding concerns in the Province of Ontario, this provincial legislation is based on the recognition that those issues associated with flooding and erosion are generally best managed on a *watershed* basis. The primary function of the Act allows for the creation of Conservation Authorities (*CAs*) and regulations to control *development*, interference with *wetlands*, and alterations to shorelines and *watercourses*.

Conservation Authorities (*CAs*) are corporate bodies created through legislation by the province at the request of two or more municipalities in accordance with the requirements of the CA Act. Each *CA* is governed by the CA Act and by a Board of Directors whose members are appointed by participating municipalities located within a common *watershed* within the *CA* jurisdiction. *CA* Board composition is determined by the CA Act according to the proportion of the population from participating municipalities within the *watershed*.

Section 20 of the CA Act sets out the objects for *CAs* 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.

Section 21 of the CA Act outlines the powers of *CAs* including the power to establish *watershed*-based resource management programs and/or policies and the power to charge fees for services, the services for which are approved by the Minister of Natural Resources.

The fundamental provincial role for all *CAs* focuses on water related natural hazard prevention and management and includes flood and erosion control. *CAs* may undertake the following roles and activities:

- i. Regulatory Authorities – Under Section 28 of the CA Act, subject to the approval of the Minister of Natural Resources and in conformity with the Provincial Regulation 97/04 governing the content, *CAs* may make regulations applicable to the area under its jurisdiction to prohibit, restrict, regulate or give required permission for certain activities in and adjacent to *watercourses* (including *valleylands*), *wetlands*, shorelines of inland lakes and the *Great Lakes-St. Lawrence River System* and other *hazardous lands*
- ii. Delegated ‘Provincial Interest’ in Plan Review – As outlined in the Conservation Ontario/ Ministry of Natural Resources (*MNR*) / Ministry of Municipal Affairs and Housing (*MMAH*) Memorandum of Understanding (*MOU*) on *CA* Delegated Responsibilities (Appendix A), *CAs* have been delegated responsibilities from the Minister of Natural Resources to represent the provincial interests regarding natural hazards encompassed by

Section 3.1 of the Provincial Policy Statement, 2005 (*PPS*). These delegated responsibilities require *CAs* to review and provide comments on municipal policy documents (Official Plans and comprehensive zoning by-laws) and applications submitted pursuant to the Planning Act as part of the Provincial One-Window Plan Review Service.

- iii. Resource Management Agencies – In accordance with Section 20 and 21 of the *CA Act*, *CAs* are local *watershed*-based natural resource management agencies that develop programs that reflect local resource management needs within their jurisdiction. Such programs and/or policies are approved by the *CA Board of Directors* and may be funded from a variety of sources including municipal levies, fees for services, provincial and/or federal grants and self-generated revenue.
- iv. Public Commenting Bodies – Pursuant to the *Planning Act*, *CAs* are ‘public commenting bodies’, and as such are to be notified of municipal policy documents and planning and *development* applications. *CAs* may comment as per their Board approved policies as local resource management agencies to the municipality or planning approval authority on these documents and applications. *CAs* may also be identified as commenting bodies under other Acts and Provincial Plans.
- v. Service Providers – Individual *CAs* may enter into service agreements with federal and provincial ministries and municipalities to undertake regulatory or approval responsibilities and/or reviews (e.g. reviews under the *Fisheries Act* Section 35; septic system approvals under the *Ontario Building Code*).

CAs may also perform a technical advisory role to municipalities as determined under the terms of service agreements. These services may include, matters related to policy input and advice, the assessment or analysis of water quality and quantity, environmental impacts, *watershed* science and technical expertise associated with activities near or in the vicinity of sensitive natural features, hydrogeology and storm water studies.

- vi. Landowners – *CAs* are landowners, and as such, may become involved in the planning and *development* process, either as an adjacent landowner or as a proponent. Planning Service Agreements with municipalities have anticipated that as *CAs* are also landowners this may lead to a conflict with the *CA* technical advisory role to municipalities. This potential conflict of interest is addressed by establishing a mechanism for either party to identify a conflict and implement an alternative review mechanism as necessary.

Section 20 of the *CA Act* describes the objects of a *CA*, which 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.

Section 21 of the *CA Act* lists the powers which *CAs* have for the purpose of accomplishing their objects. The objects identified in the *CA Act* relevant to this chapter include:

- a. To study and investigate the *watershed* and to determine a program whereby the natural resources of the *watershed* may be conserved, restored, developed and managed;
- e. To purchase or acquire any personal property that it may require and sell or otherwise deal therewith;

- l. To use lands that are owned or controlled by the *Authority* for purposes, not inconsistent with its objects, as it considers proper;
- m. To use lands owned or controlled by the *Authority* for park or other recreational purposes, and to erect, or permit to be erected, buildings, booths and facilities for such purposes and to make charges for admission thereto and the use thereof;
 - m.1 To charge fees for services approved by the Minister;
- n. To collaborate and enter into agreements with ministries and agencies of government, municipal councils, local boards and other organizations;
- p. To cause research to be done;
- q. Generally to do all such acts as are necessary for the due carrying out of any project R.S.O. 1990, c. C.27, s. 21; 1996, c. 1, Sched. M, s. 44 (1, 2); 1998, c. 18, Sched. I, s. 11.

Pursuant to Section 28 (1) of the CA Act and in accordance with Ontario Regulation (O. Reg.) 97/04 “Content of Conservation Authority Regulations under Subsection 28(1) of the Act: Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses” (i.e. Generic or Content Regulation)”,

“Subject to the approval of the Minister, an *Authority* may make regulations applicable in the area under its jurisdiction,

- b. Prohibiting, regulating or requiring the permission of the *Authority* for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or *watercourse*, or for changing or interfering in any way with a *wetland*;
- c. Prohibiting, regulating, or requiring the permission of the *Authority* for *development* if, in the opinion of the *Authority*, the control of flooding, erosion, dynamic beaches or *pollution* or the *conservation of land* may be affected by the *development*.

Section 28 (25) of the CA Act defines *development* as meaning:

- The construction, reconstruction, erection, or placing of a *building* or structure of any kind;
- 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;
- Site grading;
- The temporary or permanent placing, dumping, or removal of any material originating on the site or elsewhere.

Note: This definition for “*development*” differs from the definition that is contained in the *PPS*. The relevant definition needs to be applied to the appropriate process.

1. 3. 2 Development, Interference with Wetlands and Alterations to Shorelines and Watercourses

The Hamilton Conservation Authority has had a Section 28 Regulation, under the Conservation Authorities Act, since 1960. The Fill, Construction and Alteration to Waterways Regulation (Ontario Regulation 151/90) was in effect until May 2006. At this time the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (*HCA* Regulation 161/06 under Ontario Regulation 97/04) came into effect.

Section 2 of this Regulation states:

2. (1) Subject to section 3, no person shall undertake *development* in or on the areas within the jurisdiction of the *Authority* that are:

- a. Adjacent or close to the shoreline of the *Great Lakes-St. Lawrence River System* or to inland lakes that may be affected by flooding, erosion or dynamic beaches, including the area from the furthest offshore extent of the *Authority's* boundary to the furthest landward extent of the aggregate of the following distances,
 - i. The *100 year flood level*, plus the appropriate allowance for *wave uprush* and other related hazards,
 - ii. The predicted long term stable slope projected from the existing stable toe of the slope or from the predicted location of the toe of the slope as that location may have shifted as a result of shoreline erosion over a 100-year period,
 - iii. Where a dynamic beach is associated with the waterfront lands, a 30 metre allowance inland to accommodate dynamic beach movement,
 - iv. 15 metres inland;
- b. River or stream valleys that have depressional features associated with a river or stream, whether or not they contain a *watercourse*, the limits of which are determined in accordance with the following rules:
 - i. Where the river or stream valley is apparent and has stable slopes, the valley extends from the stable *top of bank*, plus 15 metres, to a similar point on the opposite side,
 - ii. Where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted long term stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predicted location of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to a similar point on the opposite side,
 - iii. Where the river or stream valley is not apparent, the valley extends the greater of,
 - A. The distance from a point outside the edge of the maximum extent of the *flood plain* under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side, and
 - B. The distance from the predicted meander belt of a *watercourse*, expanded as required to convey the flood flows under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side;
- c. *Hazardous lands*;
- d. *Wetlands*; or

- e. Other areas where *development* could interfere with the *hydrologic function* of a *wetland*, including areas within 120 m of all Provincially *Significant Wetlands*, and areas within 30 m of all other *wetlands*, but not including those where *development* has been approved pursuant to an applicant made under the Planning Act or other public planning or regulatory process.

Under Section 3 of the Regulation, the *Authority* may permit the above if, in the opinion of the *Authority*, *development* will not affect the control of flooding, erosion, dynamic beaches, *pollution*, or the *conservation of land* (*HCA* Regulation 161/06 under Ontario Regulation 97/04).

Section 6 of the Regulation allows the Hamilton Conservation Authority to grant permission 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* (Appendix B).

1. 3. 3 Additional Legislation and Policy

Authority staff utilize the following legislation, in conjunction with the Conservation Authorities Act and *HCA* Regulation 161/06, when reviewing regulation and planning proposals.

1. 3. 4. 1 Clean Water Act

The Clean Water Act came into effect on October 19, 2006, and it is part of the government's commitment to implement all of the recommendations of the Walkerton Inquiry. The legislation directly addresses 12 and supports the implementation of 22 recommendations of the Walkerton Inquiry on protecting drinking water at its source. It ensures that every Ontarian has access to safe drinking water by protecting municipal drinking water supplies at the source. This is part of an overall commitment to safeguard human health and the environment. A key focus of this legislation is the development of collaborative, locally driven, science-based protection plans. While it is not possible to completely remove all risks to our drinking water, the Clean Water Act will help reduce risks by addressing threats to drinking water quantity and quality. Protection plans will identify *vulnerable* aquifers and recharge areas and protect these areas from becoming contaminated or depleted. The Act is designed to promote voluntary initiatives but requires mandatory action where needed.

Protecting drinking water sources is an important part of protecting Ontario's natural resources, green spaces, and the environment. Source protection planning will give Municipalities a tool to help protect drinking water sources that fits together with long-term regional growth plans such as the Growth Plan for the Greater Golden Horseshoe.

In conjunction with the *HCA*, Municipalities, property owners, farmers, industry, community groups, and the public work side by side to meet common goals. Communities work together to identify potential risks to local water sources and take action to reduce or eliminate these risks. *HCA* works closely with the Halton-Hamilton Source Water Protection Team to accomplish the goals set out in the Clean Water Act and to implement the Source Water Protection Plan for the *HCA watershed*.

Where there is a conflict between a provision of a significant threat policy or designated Great Lakes policy set out in the source protection plan and a provision in the *PPS*, the Greenbelt Plan, the Niagara Escarpment Plan, or the Growth Plan for the Greater Golden Horseshoe, the

provision that provides the greatest protection to the quality and quantity of any water that is or may be used as a source of drinking water prevails. Consideration will be given to this legislation by HCA staff when reviewing planning applications.

1.3.4.2 The Drainage Act

Statute law for land drainage dates back almost 150 years in Ontario. In 1894, the original Municipal Drainage Act was passed and provided for the first orderly, equitable mechanisms through which agricultural drainage issues could be handled. This Act has been amended several times during the last 100 years, the last revision having occurred in 1976, when the newly named Drainage Act was established. This Act is in use today and outlines very detailed and sophisticated means through which several types of drainage issues may be resolved. Local municipalities administer the provisions of the Act; while the Ministry of Agriculture and Food provides policy and program implementation assistance to them.

Municipal drains are generally designed to carry seasonal storm flows in order to remove the possibility of ponding water within cultivated fields. This water, if not removed, can harm crop growth, and ultimately crop value. Therefore, drains are designed to carry either the 2 year or the 5 year storm event.

The Drainage Act outlines three types of ‘outlet’ drains that may be constructed under its provision. They are:

1. Mutual Agreement Drains (Section 2 of the Act);
2. Requisition Drains (Section 3 of the Act); and
3. Petition Drains (Section 4 of the Act).

When two or more landowners wish to construct a new, or improve an existing, drainage works on their own properties and are willing to pay the costs for such works, they may, under Section 2(1) of The Drainage Act, enter into a written agreement to undertake the works. The result is a ‘Mutual Agreement Drain’, which is constructed and implemented by the landowners who are party to the agreement. This agreement is registered on title of the affected lands and is binding on all future landowners [Sections 2(2) and 2(3)].

With respect to ‘Requisition Drains’, Section 3(1) of The Drainage Act states that these types of drains differ from the other two in that there is a limit of cost (\$7 500.00) stipulated for a requisition drain [Section 3(3)] and the assessment of costs is conducted on a 750 metre distance limit surrounding the drain itself [Section 3(4)].

The most common types of drain proposals in the Hamilton area are ‘Petition Drains’. These kinds of drains are ‘petitioned’ by the majority of landowners in the ‘watershed’ that will benefit from the proposed new drainage works. All *watershed* landowners are assessed the costs of the works. Please note that a municipality may also ‘petition’ municipal drainage works [Section 4(1) (c)] if they are required for a road (i.e. seasonal flooding problem).

Due to our *watershed* focus, Conservation Authorities have been specifically noted as commenting agencies for ‘Petition Drains’ under various sections of The Drainage Act. Specifically, the Act states that CAs are to receive ‘notice’ of the filing of a petition [Section 5(1) (b)]; CAs have the right to request, at the CA’s expense, that an ‘environmental appraisal’ be undertaken as part of the project [Section 6(1)]; CAs are to receive the preliminary engineering reports for the works [Section 10(2) (c)]; CAs have the right to appeal to the Drainage Tribunal

the contents of a requested environmental appraisal if deemed unsatisfactory [Section 10(7) and (8)]; we are to receive the final engineer's report [Section 41(1) (f)]; and the Conservation Authority may appeal the final engineer's report to the Tribunal (Section 49) when, in its opinion, the drainage works "will injuriously affect a scheme undertaken by the *Authority* under The Conservation Authorities Act". Time limits for circulations and appeals are provided for in the above-noted sections of the Act. *Authority* staff should refer directly to The Drainage Act when dealing with such matters in order to ensure our concerns are included in the design of the drainage works.

The Hamilton Conservation Authority has developed policies stating that drains designed for agricultural purposes, if constructed under Section 4 (Petition Drains) of The Drainage Act, do not require 'waterway alteration' permits from our agency under The Conservation Authorities Act. We believe that if our concerns can be adequately addressed under the provisions of The Drainage Act, there is no need to duplicate the process.

1.3.4.3 Endangered Species Act

Ontario's original Endangered Species Act was written in 1971. Since then there have been changes in land and resource use, planning processes, and increasing threats to our native species. Therefore, an updated Endangered Species Act came into effect in 2007. Aboriginal communities, industry and resource organizations, environmental groups, other partners, the Endangered Species Act Review Advisory Panel, and the Ontario public were consulted during the course of the update process.

This updated legislation provides for: broader protection for species at risk and their habitats; greater support for volunteer stewardship efforts of private landowners, resource users, and conservation organizations; a stronger commitment to recovery of species; greater flexibility; increased fines, more effective enforcement; and greater accountability, including government reporting requirements.

Under the Endangered Species Act 2007 there is a strong emphasis on science-based review and assessment of species. Species thought to be at risk are assessed by The Committee on the Status of Species at Risk in Ontario (*COSSARO*). *COSSARO* is an independent body that reviews species based on the best available science, including community knowledge, and Aboriginal Traditional Knowledge. Once species are classified "at risk", they are added to the Species at Risk in Ontario (*SARO*) List in one of the following four categories: Special Concern, Threatened, Endangered, or Extirpated.

The Act not only calls for the creation of recovery strategies for *endangered* and *threatened species*, and management plans for special concern species. It also permits general regulations to provide greater flexibility, and Habitat Regulations to describe the habitat of a species.

HCA staff work in collaboration with the Ministry of Natural Resources, and private landowners, to pre-screen *development* proposals for presence/absence of listed species or their habitats as part of our planning and regulation application review process. Consideration will be given to this legislation by *HCA* staff when reviewing planning and regulation applications.

1. 3. 4. 4 Environmental Assessment Acts

Within Ontario environmental assessments are governed by two Acts: The Canadian Environmental Assessment Act and the Ontario Environmental Assessment Act. Federally initiated projects fall under the mandate of the Canadian Environmental Assessment Act, while all others are administered and addressed according to the dictates of the Ontario Environmental Assessment Act. However, these two Acts can apply to the same project and in this case the proponent must meet the requirements of both Acts.

Although the Hamilton Conservation Authority is most commonly involved with those assessments that fall under the provincial legislation, HCA staff should be aware of the general principles of the federal process.

1. 3. 4. 4. 1 *The Canadian Environmental Assessment Act*

The Canadian Environmental Assessment Act works to ensure that the environmental effects of federal level projects are carefully examined prior to their initiation. This is done in order that potentially adverse environmental effects can be addressed before any works are undertaken. The federal environmental assessment process is administered by the Canadian Environmental Assessment Agency.

Generally speaking, the Act is applied to projects where the Government of Canada is the decision-making authority – whether as a funder, proponent, land manager, or regulator. The degree to which a project is assessed will depend on the scale and complexity of the project and its anticipated impacts on the environment. Following are the four types of environmental assessment under this Act, and a description of each:

1. **Screening** (including class screenings): a responsible authority documents the environmental effects of a proposed project and determines methods by which eliminate or mitigate harmful effects through modifications to the project plan. A class screening is applied when a project has known effects that can be easily mitigated. Class screenings fall into one of two types;
 - a. **Model Class Screening:** provides a generic assessment of all screenings within a class. The responsible authority uses information contained in a model report and prepares individual screening reports for projects within the class to account for location-specific or project-specific information.
 - b. **Replacement Class Screening:** provides a generic assessment of all screenings within a class. No location-specific or project-specific information is needed, so the responsible authority does not need to prepare project-specific screening reports for projects covered by the replacement class.
2. **Comprehensive Study:** applied to large scale and environmentally sensitive projects; requires a more intensive assessment which includes mandatory opportunities for public participation.
3. **Mediation:** occurs when the Minister of the Environment appoints an impartial mediator to assess a project and help interested parties resolve issues. This approach is used when interested parties agree, are few in number and consensus appears possible.
4. **Review Panel:** assessments conducted by a Minister appointed panel. Applied when the environmental effects of a proposed project are uncertain or likely to be significant, or when warranted by public concern.

1.3.4.4.2 *The Ontario Environmental Assessment Act*

The stated purpose of the Environmental Assessment Act is “the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment” (R.S.O. 1990, c.E.18, s.2).

The concept of ‘environment’ in this regard is fairly broad, and taken by the Act to mean:

- a. Air, land or water;
- b. Plant and animal life, including human life;
- c. The social, economic and cultural conditions that influence the life of humans or a community;
- d. Any *building*, structure, machine or other device or thing made by humans;
- e. Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities; or
- f. Any part or combination of the foregoing and the interrelationships.

The Environmental Assessment Act, passed by the Ontario government in 1975, sets up a process for reviewing the environmental impact of proposed activities prior to their implementation. The Act applies to government ministries and agencies, Conservation Authorities and municipalities, and some private sector undertakings. Under the Ontario Environmental Assessment Act there are two types of environmental planning and approvals process: Individual and Class Environmental Assessments (*EAs*). Both types of Environmental Assessments not only mitigate environmental impacts but also provide opportunities for enhancement.

Broadly speaking, Individual *EAs* are required for projects that do not fall under the umbrella of any of Ontario’s 10 Class *EA* projects. For example, there are Class *EAs* for highway projects undertaken by the Ministry of Transportation and utility projects undertaken by utility companies. Individual *EAs* require that Terms of Reference (TOR) be developed and submitted to the Ministry of the Environment. Once approved, the *EA* project is then completed according to the details of the TOR. This process generally includes reports to relevant authorities at key decision points, and an extensive public consultation process.

Class *EAs* are undertaken for those groups or ‘classes’ of projects that are carried out on a routine basis, and whose environmental impacts can be largely predicted and mitigated. Under the Environmental Assessment Act there are five key features to planning that should be applied to the Class *EA* process:

1. Consultation with affected parties;
2. Consideration of reasonable alternatives and alternative methods of implementation;
3. Environmental considerations;
4. Systematic evaluation of net environmental impacts; and
5. Clear and consistent documentation.

The Municipal Class *EA*, the class most commonly directed to the *Authority* for comment, applies to municipal infrastructure projects including roads, water, and wastewater projects. These projects are categorized into Schedules based on their potential environmental impacts. The higher the potential impact of the project, the more detailed are the requirements of the *EA* process.

Within the Municipal Class *EA* there are three Schedules:

- A. Normal/emergency operational and maintenance activities (pre-approved);

- B. Improvements/minor expansions to existing facilities (screening); and
- C. Construction of new facilities and major expansions to existing facilities (Full Class *EA*).

Schedule B projects are those that are considered to have the potential for having some adverse impacts on the environment. Such projects require mandatory contact with any relevant review agencies and those portions of the public that will be directly affected by the proposed works. This is to ensure that they are aware of the project and their concerns are addressed.

Schedule C encompasses those projects that are considered to have the potential to have significant effects on the environment. These types of works can include the construction of new or major expansions to water, sanitary sewer, and stormwater management facilities. Prior to beginning construction and operation of the project, the proponent is required to proceed through a series of full planning and documentation procedures, which include:

- Clear identification of the problem;
- Identification of alternative solutions and impacts;
- Establishment of the preferred solution;
- Examination of alternative methods of implementation of the solution; and
- Provision of extensive documentation of the rationale, planning, design and consultation process (referred to as the Environmental Study Report)

As part of the planning review process the Conservation Authority is expected to review and comment on all Class and Individual *EAs* occurring within its *watershed* boundaries. Conservation Authority staff may find that the planning features required by the *EA* Act used in combination with the steps required for Class *EA* projects provide a good place from which to initiate the *EA* review process and a general basis from which to formulate their comments.

The *Authority* will encourage the City of Hamilton and the Township of Puslinch to involve *HCA* staff in preliminary discussions of Municipal Class *EA* projects. Generally speaking, the role of the Conservation Authority in providing such comments is to ensure that environmental and resource concerns are identified early and considered throughout the *EA* process. This is to ensure that proposed impacts on the natural environment are minimized to the greatest extent possible. Appropriate mitigation techniques and relevant technical information should be incorporated into reviews and comments, as well as any concerns with regard to the application of the policies outlined in this document.

If a conflict of interest between *HCA* policies and the proposed action arises, *HCA* staff will work closely with the municipality to resolve *HCA* concerns, however *HCA* may also contact MOE to best determine a resolution of the issue.

Responses to *EAs* must be made within the time frame indicated on the document. Upon receiving a Notice of Completion, if it is felt that concerns were not adequately addressed the Director of Watershed Planning and Engineering should be notified in order to determine if further action is necessary.

1.3.4.5 Federal Fisheries Act

The Hamilton Conservation Authority has a Level 2 agreement with Fisheries and Oceans Canada (*DFO*) which allows *HCA* staff to review projects under Section 35(1) of the Fisheries Act (Appendix E). The Fisheries Act states, “No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of *fish habitat*”. Under a Level 2

agreement, the *HCA* has the responsibility to recommend mitigation measures to alleviate potential harmful alteration, disruption or destruction (*HADD*) to *fish habitat*. The *Authority's* agreement with *DFO* has been put in place for the conservation and protection of *fish habitat* while promoting the principles of good fisheries management and client service.

1.3.4.6 The Greenbelt Act

The Greenbelt Act (2005) enabled the creation of the Greenbelt Plan which protects approximately one million acres of environmentally sensitive and agricultural lands in the Golden Horseshoe from urban development and sprawl. This is in addition to the lands protected under the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan.

The legislation of this Act authorizes the government to designate a greenbelt area as well as setting out the main elements and objectives for the Greenbelt. It also requires that planning decisions adhere to the Greenbelt Plan.

The Greenbelt Plan is intended to act as the cornerstone for the Province's proposed Growth Plan for the Greater Golden Horseshoe, providing clarity regarding urban structure, where and how future growth should be accommodated, and what must be protected for current and future generations.

The Greenbelt Plan identifies areas where urbanization should not occur in order to provide permanent protection for the agricultural land base and the ecological features and functions that occur within that landscape. This plan includes those lands within, and builds upon the ecological protections provided by, the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan. It also supports other provincial level initiatives such as the Parkway Belt West Plan.

The lands that are covered by the Greenbelt Plan are referred to collectively as Protected Countryside. The Protected Countryside is comprised of an Agricultural System and a Natural Heritage System, together with a series of settlement areas.

All lands that fall within those areas that are regulated by the Greenbelt Plan must conform to the requirements of that legislation. Where the Greenbelt Plan overlaps with areas that fall under the jurisdictional areas of the Niagara Escarpment Plan or the Parkway Belt West Plan both pieces of legislation shall apply over and above the Greenbelt Plan with the following exceptions:

- **Niagara Escarpment Plan (NEP):** the requirements of the NEP continue to apply and the Protected Countryside policies do not apply with the exception of Section 3.3 of the Greenbelt Plan.
- **Parkway Belt West Plan (PBWP):** the requirements of the PBWP continue to apply to lands within the PBWP area and the Protected Countryside policies do not apply with the exception of Sections 3.2 and 3.3 of the Greenbelt Plan.

When reviewing applications that fall under the jurisdictional authority of the Greenbelt Plan, *Authority* staff must ensure that their recommendations are in conformity with the requirements of that legislation. In the event that a discrepancy exists between the policies within this document and the Greenbelt Plan, the latter shall prevail.

1. 3. 4. 7 Hamilton Harbour Remedial Action Plan

The Hamilton Harbour is one of 42 identified Areas of Concern (*AOC*) within the Great Lakes Basin. *AOCs* are areas where human activity has caused or is likely to cause “impairment of beneficial uses or the area’s ability to support aquatic life” (IJC, 1999). Canada and the United States, in cooperation with provincial and state governments, have developed and are implementing Remedial Action Plans (*RAPs*) for each *AOC*. Each *RAP* is intended to provide a systematic and comprehensive ecosystems approach to restoring beneficial uses, and to aid in the elimination of persistent toxic substances. The goal of the Hamilton Harbour *RAP* is to restore and protect beneficial uses to a state where it can be delisted by the year 2015.

While the *HCA* does not have a specific process with which it addresses the *RAP*, all planning applications should be considered for their impact on the Harbour, and decision making should occur such that it supports the goals and objectives of the *RAP* to the greatest extent possible.

1. 3. 4. 8 Lakes and Rivers Improvement Act

In April 2007 Ontario Regulation 160/07 came into effect and replaced Ontario Regulation 454/96 under the Lakes and Rivers Improvement Act (*LRIA*). This updated regulation provided an exemption to eliminate *LRIA* permits in the jurisdiction of Conservation Authorities, with the exception of dam installations. Since the *MNR* believes that impacts of stream crossings, channelization, stream enclosure, and utility crossings on public safety are adequately addressed by the *Authority* under the Conservation Authorities Act, this amendment reduces overlap and duplication of permits being issued by the *MNR* and Conservation Authorities.

The *MNR* will provide *HCA* staff with technical support related to public safety and ecosystem sustainability, and riparian interests when requested and as required, for work that previously required ministry approval.

1. 3. 4. 9 The Niagara Escarpment Planning and Development Act

“The Niagara Escarpment encompasses a variety of topographic features and land uses, extending 725 km from Queenston on the Niagara River to the islands off Tobermory on the Bruce Peninsula. The particular combination of geological and ecological features along the Niagara Escarpment results in a landscape unequalled in Canada” (Niagara Escarpment Plan, 2005).

The purpose of the Niagara Escarpment Planning and Development Act was to establish a planning process “to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment and to ensure only such development occurs as is compatible with that natural environment” (R.S.O. 1990, c. N.2, s.2).

From this Act emerged the Niagara Escarpment Plan (*NEP*) which serves as a framework of objectives and policies to strike a balance between development, preservation and the enjoyment of the resource.

The Plan delineates the Escarpment and *adjacent lands* into seven land use designations;

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area

- Minor Urban Centre
- Urban Area
- Escarpment Recreation Area
- Mineral Resource Extraction Area

The Plan is intended to act as a resource management document and contains specific direction for land use decisions in each of the area designations. Overall administration of the Plan is the responsibility of the Niagara Escarpment Commission (*NEC*). Members of the *NEC* are appointed by Order-of-Council, and represent the general public and the specific counties and regions that exist within the Escarpment area. The Commission reports to the Government of Ontario through the Ministry of Natural Resources.

The *NEP* takes precedence over all By-laws passed by a municipality that are in force, to the extent of any conflict. The *HCA* works with the *NEC* Georgetown office on matters of *development*.

An amendment to the *NEP* follows a process that is outlined in the Act. Any proposed amendments to the *NEP* must be justified and adequate proof be demonstrated that any impacts do not adversely affect the purpose and objectives of the Act or the Plan. Any amendment must be consistent with the purpose and objectives of the Act, the *NEP* and other relevant provincial policies. *HCA* staff should review relevant *NEP* amendments with regard to the *Authority's* policies and guidelines.

1. 3. 4. 9. 1 NEC Development Permit Applications

The *NEC* will circulate *development* applications to the *HCA* that fall within our jurisdictional boundaries for review and comment. *HCA* staff are requested to respond to these applications within the review period specified on the “Request for Comment” attachment.

Following the decision by the *NEC* on the application, a Notice of Decision will be circulated to the *HCA* indicating the specifics of the decision and the time frame within which appeals may be made.

Municipal or Conservation Authority permits should not be issued for land within the Escarpment area until such time a Development Permit has been issued by the *NEC*. When issued, Conservation Authority permits must be in conformity with *NEC* stipulations.

1. 3. 4. 10 Parkway Belt West Plan

The Parkway Belt West Plan (*PBWP*) was implemented in 1978 for the purpose of creating a multi-purpose utility corridor, urban separator, and linked open space system. The area covered by the *PBWP* is divided into two general land use categories; the Public Use Area, which is reserved for predominantly public uses, and the Complementary Use Area, which is for predominantly private uses that are thought to support the Plan’s objectives.

Applications for amendments to the regulations made under the *PBWP* that may affect the *HCA's* area of jurisdiction are circulated to the Conservation Authority. In reviewing the application *HCA* staff should do so with respect to the Hamilton Conservation Authority Planning Policies and Guidelines.

1. 3. 4. 11 Places to Grow Act

The Places to Grow Act (2005) provides the legal framework for the Government of Ontario to designate any geographic region of the Province as a growth area and to develop strategic plans for those areas. In essence, the Act enables the government to plan for population growth, economic expansion and the protection of the environment, agricultural lands and other natural resources in a coordinated manner. Overall responsibility for implementation of the Government's various growth strategies is held with the Ministry of Public Infrastructure. The Greenbelt Act (2005) is complementary legislation to Places to Grow Act (2005).

The Growth Plan for the Greater Golden Horseshoe, approved June 16, 2006, is prepared under the Places to Grow Act (2005). This Growth Plan is the framework for implementing the Government of Ontario's vision for building stronger, prosperous communities by controlling growth until 2031. This Plan addresses issues as they relate to economic prosperity which include transportation, infrastructure planning, land use planning, urban form, housing, natural heritage, and resource protection.

This Growth Plan addresses the challenges of the above issues through policy directions that:

- Direct growth to built-up areas where the capacity exists to best accommodate the expected population and employment growth, while providing strict criteria for settlement area boundary expansions;
- Promote transit-supportive densities and a healthy mix of residential and employment land uses;
- Preserve employment areas for future economic opportunities;
- Identify and support a transportation network that links urban growth centres through an extensive multi-modal system anchored by efficient public transit, together with highways systems for moving people and goods;
- Plan for community infrastructure to support growth;
- Ensure sustainable water and wastewater services are available to support future growth;
- Identify natural systems and prime agricultural areas, and enhance the conservation of these valuable resources; and
- Support the protection and conservation of water, energy, air and cultural heritage, as well as integrated approaches to waste management.

Consideration will be given to this legislation by *HCA* staff when reviewing planning applications.

1. 3. 4. 12 The Planning Act and the Provincial Policy Statement

The Ontario Planning Act, R.S.O. 1990, sets the general ground rules for managing land use decision making within the Province, as well as establishing procedures for local autonomy in the decision making process. Of particular relevance to any agency involved in the planning process is Section 3 of the Act, wherein the ability of the Province to develop and implement detailed policy statements for matters of provincial interest is established.

These policy statements are articulated through the Provincial Policy Statement (*PPS*). Of particular interest to Conservation Authorities are: Policy 2.1 (Natural Heritage), Policy 2.2 (Water), and Policy 3.1 (Natural Hazards). However, it should be noted that a variety of policy threads run throughout the entire *PPS* and potentially contain implications for these areas,

therefore these sections should not be read in isolation of the remainder of the document (Appendix F).

In the early 1990s the Province began to download plan review responsibilities to municipal governments, shifting from their previous role as administrator of planning affairs to that of an auditor. By the mid 1990s the Province, through the Ministry of Municipal Affairs and Housing (*MMAH*), had entered into Memorandums of Understanding (MOUs) with municipalities to delegate this responsibility officially.

Although this delegation provided municipal governments with a greater level of authority than they had previously had, it also raised a number of challenges, particularly in the areas of environmental reviews and technical clearances, where they tended to have little expertise. Because environmental reviews commonly address issues of natural heritage, natural hazards, water quality and quantity, and groundwater recharge/discharge areas, it was a natural step to look to the Conservation Authorities to provide their expertise in these areas. Where Conservation Authorities exist, municipalities will generally use them as the environmental expert for planning matters. In many cases, these relationships have been formalized through the creation of MOUs between municipal governments and their local Conservation Authorities, as had been the case with the *HCA* and the City of Hamilton (Appendix G).

As a result of the *MOU*, the City of Hamilton circulates any *development* proposals to the *HCA* concerning:

- Official Plans
- Official Plan Amendments
- Zoning By-laws and Amendments
- Minor Variances
- Consents (severances)
- Subdivisions
- Condominiums
- Site Plans

1. 3. 4. 13 The Public Lands Act

The Ontario Public Lands Act works to ensure the wise management of public lands and forests as well as the sale and disposition of those lands. Permission from the Ministry of Natural Resources is required for specific activities and works on public lands and shore lands.

‘Public lands’ means any lands under the control and management of the Ministry of Natural Resources, referred to as ‘Crown Lands’, including the beds of most lakes and rivers in Ontario.

‘Shore lands’ means lands covered or seasonally inundated by the water of a lake, river, stream or pond and may include either patented (i.e. private) or public lands.

A work permit process is used to provide for effective stewardship of public lands and to ensure that specific activities undertaken on shore lands have regard for the environment, other users and neighbouring landowners. A work permit is required for the following matters:

- Fill shore lands such as creating a beach and constructing shoreline protection works (i.e. breakwall, seawall);
- Construct a dock or boathouse where the total surface area of the supporting structure exceeds 15 square metres;

- Construct a building on public lands;
- Construct a water crossing (i.e. bridge, culvert, causeway) on public land, except where authorized under the Crown Forest Sustainability Act;
- Remove aquatic vegetation;
- Dredge shore lands such as:
 - Creating a boat slip, boating channel or swimming area;
 - Installing a water line, heat loop or cable for commercial use (i.e. marina);
 - Removal of rocks/boulders from shore lands or the bottom of a lake or stream.

This list is not all inclusive and more detailed information on permitted activities and exemptions is provided at www.mnr.gov.on.ca.

In the Hamilton area, work permits under The Public Lands Act are often required for shoreline protection works or dredging along the Lake Ontario shoreline in Stoney Creek and the Hamilton Beach Area. HCA staff work very closely with the Vineland office of the Ministry of Natural Resources to ensure that the requirements of The Public Lands Act and The Conservation Authorities Act are met and the wise management of the affected natural resources is achieved.

1.3.4.14 Species At Risk Act

The Species at Risk Act (*SARA*), effective June 2002, is one of three major components in the Government of Canada Strategy for the Protection of Species at Risk. The other two components are the Habitat Stewardship Program and the Accord for the Protection of Species at Risk endorsed by the provinces, territories and the Government of Canada. *SARA* is designed as a key tool for the conservation and protection of Canada's biological diversity and fulfils an important commitment under the United Nations Convention on Biological Diversity. Currently, there are over 300 wild plant and animal species protected under the Act.

The purpose of *SARA* is to: prevent wildlife species from becoming extinct or extirpated (lost from the wild in Canada); help in the recovery of extirpated, *endangered* or *threatened species*; and ensure that species of special concern do not become *endangered* or *threatened*.

The Committee on the Status of Endangered Wildlife in Canada (*COSEWIC*), an independent group of experts, assesses the status of wildlife species and recommends a classification for their legal protection. *COSEWIC's* assessment process is based on a rigorous criteria system that not only recognizes scientific sources but also places a significant emphasis on information from the people who live on the land and have an intimate familiarity with the animals and plants around them. *COSEWIC* is not part of the federal government, but rather offers the government independent advice based on the best available biological information, including scientific knowledge, community knowledge and Aboriginal traditional knowledge.

After receiving a recommendation from *COSEWIC*, the government consults with concerned ministers, relevant wildlife management boards and the public to consider many factors, including possible social and economic implications of listing the species. The government then decides whether to add the species to the List of Wildlife Species at Risk (Schedule 1 in the Act). Once a species is listed, the provisions under *SARA* apply to protect and recover the species. The List will continually evolve as species are added or removed or their status changes.

SARA contains prohibitions against the killing, harming, harassing, capturing, taking, possessing, collecting, buying, selling or trading of individuals of *endangered*, *threatened* and extirpated

species listed in Schedule 1 of the Act. The Act also contains a prohibition against the damage or destruction of their residences (e.g. nest or den). Additionally, the habitat necessary for the survival or recovery of an *endangered, threatened* or extirpated species (*critical habitat*), is intended to be protected through voluntary or stewardship actions, however if this cannot be achieved then the prohibitions against the destruction of that particular *critical habitat* may be applied.

If an environmental assessment of a project is conducted under federal legislation such as the Canadian Environmental Assessment Act, *SARA* requires that you notify the minister or ministers in writing if the project is likely to affect a species listed in Schedule 1 or its *critical habitat*. *SARA* also requires, among other things, that the adverse effects of your project are identified for all species listed in Schedule 1 or their *critical habitat*. In addition, if the project is carried out, you must ensure that measures are taken to avoid or lessen the effects on the listed species and its *critical habitat* and to monitor the effects. The measures must be taken in a way that is consistent with applicable recovery strategies and action plans.

HCA staff work in collaboration with various departments under the Federal Government, and private landowners, to pre-screen *development* proposals for presence/absence of listed species or their habitats as part of our planning and regulation application review process. Consideration will be given to this legislation by *HCA* staff when reviewing planning and regulation applications.

1.4 Watershed Planning Approach

The Ontario Ministry of Natural Resources (*MNR*) best describes the *watershed* planning approach in the River and Stream Systems: Erosion Hazard Limit Technical Guide found in Adaptive Management of Stream Corridors of Ontario (*MNR* & Watershed Science Centre, 2001).

The incorporation of *watershed* ecosystem concepts, *natural heritage features*, and natural hazards within the Planning Act establishes a rationale for the Conservation Authority and local municipalities to abandon traditional single purpose management schemes. There is a broad range of economic and environmental benefits associated with natural stream and valley systems. Healthy natural stream systems provide recreational and fishing opportunities, clean drinking water, places to walk along, cycle next to, swim in, or paddle a canoe on. They also provide habitat for numerous species of terrestrial and aquatic animals. When a stream is allowed to take its natural course and *development* is regulated by appropriate setbacks, loss of life and property damage from flooding and erosion are minimized. Healthy natural streams require almost none of the continuous engineering that is required by hard-lined systems and thereby negate the need for costly repair and maintenance. These features of stream systems can be effectively planned for through the *watershed* management planning process.

A *watershed* management plan is a planning document developed co-operatively by government agencies and stakeholders to manage the water, land/water interactions, aquatic life, and aquatic resources within a particular *watershed*. The goal of a *watershed* management plan is to protect the health of the ecosystem. They allow communities to integrate municipal land use planning functions with the planning and management of water resources. *Watershed* planning and stream or river management are intrinsically linked. The stream plays an important role in linking the processes that dictate how a *watershed* functions and the resulting physical characteristics. Similarly, the land use activities and environmental processes taking place on the lands that drain into a stream control the characteristics and processes within a stream system.

A comprehensive *watershed* management strategy must consider the role of the receiving stream in the *watershed* from both a hydrologic and biologic standpoint. Efforts to manage or rehabilitate streams also cannot be carried out in isolation from the *watersheds* that they drain. Consideration must be given to the linkages that exist, inherent dynamics of the system, and the changing conditions in a *watershed* over time.

The *watershed* plan is a higher-order planning document, endorsed by the *watershed* member municipalities and stakeholders within *watershed* communities. *Watercourse* management and the protection or restoration of stream systems must occur on a *watershed* or sub-*watershed* basis. *Watershed* planning represents a significant step along the path towards achieving a fully functional ecosystem approach. For those managing and designing natural stream systems, *watershed* and sub-*watershed* plans provide overall guidance and direction.

Direction provided by *watershed* and sub-*watershed* plans may include, but is not limited to:

- The provision for conveyance and storage of water and sediment,

- The provision for flood flow attenuation within the *flood plain*,
- The provision for public safety from natural hazards,
- The provision for bank stability,
- The protection, maintenance, or enhancement of aquatic & terrestrial habitat,
- The maintenance and improvement of water quality, and
- The provision for source water protection activities.

There are many disciplines that must be considered when managing a *watershed*. The Hamilton Conservation Authority considers the net benefit of the *watershed* when making decisions on planning or permit applications. Figure 2 indicates the interdisciplinary links that the *Authority* consults when using a *watershed* approach to planning.

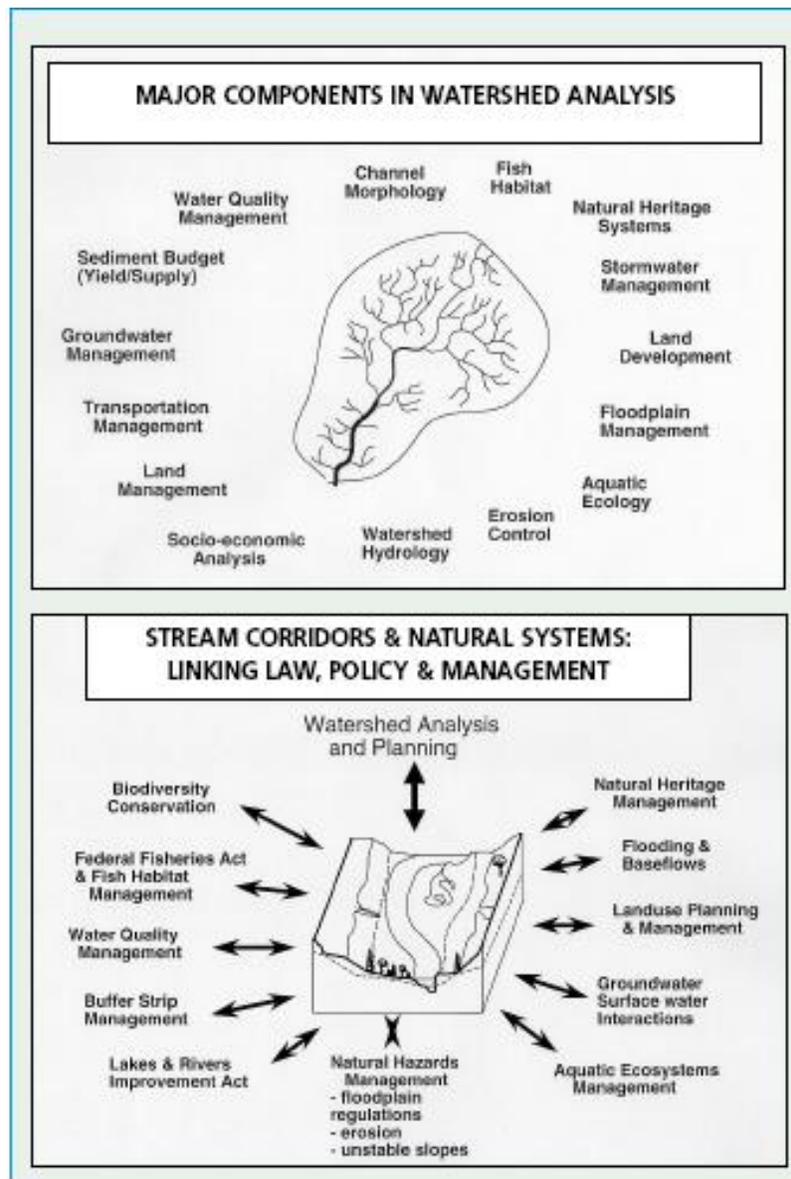


Figure 2: Interdisciplinary Links in Watershed Planning
(courtesy of MNR & Watershed Science Centre, 2001)

1.5 HCA Program Objectives

The mandate of Ontario's Conservation Authorities is based on resource management at the *watershed* level and to create and implement programs that work to conserve, restore and responsibly manage Ontario's water, land, and natural habitats.

The broad objectives of Ontario's Conservation Authorities are:

- To ensure that Ontario's rivers, lakes and streams are properly safeguarded, managed, and restored;
- To protect, manage, and restore Ontario's *woodlands, wetlands*, and natural habitat;
- To develop and maintain programs that will protect human life and property from natural hazards such as flooding and erosion; and
- To provide opportunities for the public to enjoy, learn from and respect Ontario's natural environment.

The basis of the Hamilton Conservation Authority's mandate is focused on resource management at the *watershed* level. It has long been recognized that due to the interconnectivity of water systems, what happens in one part of the *watershed* will affect another. Since creeks and streams pay little attention to political boundaries, attempts to manage our water systems successfully will be most profitable at the *watershed* level.

Through the broad objectives listed above, the Hamilton Conservation Authority envisions the following returns:

- Safe streams, without the threat of floods;
- Environmentally-healthy streams;
- The full protection of all significant natural areas;
- Public ownership of large tracts of open space with connecting corridors;
- Healthy recreational use of publicly-owned lands;
- A second-to-none, multi-use trail network;
- "Greener" urban cores; and
- Environmentally informed and committed citizens - young and old.

These planning policies and guidelines are intended to provide detailed direction on how to best address *development* proposals so that they meet these objectives and to provide a basis from which the Conservation Authority can offer clear and consistent responses to *development* applications. Therefore, in the course of discharging their duties, *Authority* staff should be aware of and consider these objectives in all matters.

1.6 Development Applications and the Review Process

The Hamilton Conservation Authority (*HCA*) has been delegated responsibility to review municipal policy documents and applications under the Planning Act to ensure that they are consistent with the natural hazards policies Section 3.1 of the Provincial Policy Statement, 2005 (*PPS*). The *HCA* has not been delegated responsibilities to represent or define other provincial interests on behalf of the Province under the Planning Act, the *PPS*, or other provincial legislation (e.g. Endangered Species Act, 2007) or provincial plans (e.g. Greenbelt Plan, etc.).

Under the *CO, MNR & MMAH MOU on CA Delegated Responsibilities*, the *HCA* has a commenting role in approval of new or amended ‘*Special Policy Areas*’ for *flood plains* under Section 3.1.3 of the *PPS*, where such designations are feasible. *Special Policy Areas (SPAs)* are areas within *flood plain* boundaries of a *watercourse* where exceptions to the *development* restrictions of the natural hazards policy (3.1) in the *PPS*, may be permitted in accordance with technical criteria established by the *MNR*.

The *HCA* provides supportive background and technical data regarding existing and proposed SPAs. New SPAs and any proposed changes or deletions to existing boundaries and/or policies are approved by both the Ministers of Natural Resources and Municipal Affairs and Housing, with advice from *HCA*, prior to being designated by a municipality or planning approval authority.

The *HCA* is considered a public commenting body pursuant to Section 1 of the Planning Act and regulations made under the Planning Act. As such, The *HCA* must be notified of municipal policy documents and applications within its jurisdiction as prescribed. To streamline this process, the *HCA* has screening protocols with its *watershed* municipalities, normally through service agreements, which identifies those applications that the *HCA* should review.

In addition to the *HCA*’s legislative requirements and mandated responsibilities under the CA Act, Section 28 Regulations as regulatory authorities, and Section 3.1 of the *PPS* as delegated plan reviewers for provincial interest, the *HCA*’s role as a *watershed*-based, resource management agency also allows the *HCA* to review municipal policies, planning documents and applications pursuant to the Planning Act as a ‘public commenting body’ as outlined in the *CO, MNR & MMAH MOU on CA Delegated Responsibilities* (Appendix A).

In some cases, provincial plan (e.g. Greenbelt Plan; Niagara Escarpment Plan) requirements may exceed *HCA* regulatory requirements and such greater requirements take precedence. For example, the provincial plans may have greater requirements for vegetation *buffers* or more restrictions on the uses permitted than *HCA* regulatory requirements.

A typical requirement of the legislation for those plans is that comments, submissions, or advice provided by the *HCA*, that affect a planning matter within those areas, shall conform to the provincial plan. Similarly, where there are regulations (including CA Act Section 28 and the Fisheries Act) that are more restrictive than those contained in these provincial plans, the more restrictive provisions prevail.

The “principle of development” is established through Planning Act approval processes, whereas the CA Act permitting process provides for technical implementation of matters pursuant to

Section 28 of the CA Act. The scope of matters that are subject to CA Act S. 28 regulations is limited to the activities in areas set out under Section 28(1) and Section 28(5) of the CA Act.

HCA staff should ensure that concerns they may have regarding the establishment of the “principle of development” are conveyed to the municipality/planning approval authority during the preparation of a municipal Official Plan, secondary plan or Official Plan amendment, or during the Planning Act approvals process and not through the CA Act S. 28 permitting process.

An established “principle of development” does not preclude the ability of the *HCA* (or *MMAH* as per the *MOU*) to appeal a planning matter to the Ontario Municipal Board (*OMB*) (e.g., based on newer technical information relevant to the *PPS*). It is recognized that there may be historic planning approval decisions that were made in the absence of current technical information which could now preclude *development* under the CA Act regulations. Where possible, if an issue remains unresolved, the *HCA* will work with the proponent and the municipality to pursue a resolution.

The *HCA* may provide a number of other programs and services (extension services, community relations, information, education services and permissions under other legislation) that may or may not be linked to applications made pursuant to the Planning Act or CA Act S. 28 regulation permissions. These programs and services are not governed by this chapter.

1. 6. 1 Policies and Procedures for Municipal Plan Review by Conservation Authorities

Authority staff utilize the following policies and procedures for municipal plan review.

1. 6. 1. 1 ‘Provincial Interest’ Memorandum of Understanding of CA Delegated Responsibilities

Through the Minister’s delegation letter and under the *MOU* signed in 2001 (Appendix A), *CO*, *MNR* and *MMAH* agreed to support the provisions of the *MOU* as an appropriate statement of the roles and responsibilities of the relevant Ministries and *CAs* in the implementation of the *PPS* and now continued in the *PPS*, 2005.

Pursuant to the delegation letter and the *MOU*, *CAs* have been delegated the responsibility to review municipal policy documents and planning and *development* applications submitted pursuant to the Planning Act to ensure that they are consistent with the natural hazards policies found in Section 3.1 of the *PPS*. These delegations do not extend to other portions of the *PPS*, unless specifically delegated or assigned in writing by the Province.

Note: At the time of signing, the 2001 *CO*, *MNR* & *MMAH* *MOU* stipulates that plan review was to determine whether application had “regard to” Section 3.1 of the *PPS*, 1997, while the amendment made to the Planning Act 3 (5) and 3 (6) by the Strong Communities (Planning Amendment) Act (Bill 51) and described in S. 4.2 of the *PPS*, 2005 changes this wording, “to be consistent with” the policies outlined in the *PPS*, 2005.

The *PPS* provides for appropriate *development* while protecting resources of provincial interest, public health and safety, and the quality of the natural environment. The policies of the *PPS* may be complemented by provincial plans or by locally-generated policies regarding matters of municipal interest. Provincial plans and municipal Official Plans provide a framework for

comprehensive, integrated and long-term planning that supports and integrates the principles of strong communities, a clean and healthy environment and economic growth, for the long term.

The *HCA* will collaborate with *watershed* municipalities to recommend policies and provisions for inclusion into Official Plan policies for complete planning application requirements so that information or studies needed by the *HCA* for reviewing Planning Act applications from the delegated responsibility for natural hazards policies found in Section 3.1 of the *PPS* is addressed early in the process.

The *HCA* should ensure that all concerns relevant to its delegated responsibilities for natural hazards are made available to *watershed* municipalities and planning approval authorities under the Planning Act during the application review process.

In participating in the review of *development* applications under the Planning Act, the *HCA* should at the earliest opportunity:

- i. Ensure that the applicant and municipal planning authority are also aware of the Section 28 regulations and requirements under the CA Act; and
- ii. Assist in the coordination of applications under the Planning Act and the CA Act to eliminate unnecessary delay or duplication in the process.

The *HCA* will confer with *watershed* municipalities to recommend policies and provisions for potential inclusion into Official Plans and comprehensive zoning by-laws that may be complementary to *HCA* Board-approved policies as resource management agencies and other planning responsibilities as outlined in Section 1.0 to ensure that municipal land use decisions may address them.

Recognizing that there is no requirement for *watershed* municipalities to invite the *HCA* to pre-consultation meetings, the *HCA* will contact municipalities, where appropriate, to ensure that the *Authority* is involved in pre-consultation and attend associated meetings on Planning Act applications, especially where such applications may trigger a related permit application under the CA Act S. 28. Technical service agreements between *watershed* municipalities and the *HCA* may formalize arrangements for *CA* involvement in pre-consultation. As coordinated by the municipality or planning approval authority, depending on the scope of the project, pre-consultation could include staff from the following parties: the *HCA*, the municipality (for example, planning and engineering staff), the applicant, consultants, the developer (owner) and may be supplemented by staff from provincial ministries, Parks Canada and any other government agencies.

If involved in providing a technical advisory role, *CAs* and municipalities should establish formal technical service agreements. *CAs* should ensure that the service agreement with a municipality addresses obligations of the *CA* to participate in pre-consultation and other meetings; how the *CA* may participate in *OMB* hearings or other tribunals; how the parties or participants may be represented at hearings for the purpose of legal representation; and limits on the *CA*'s ability to represent the municipality's interests. Service agreements or contracts should specify that regular reviews by the parties of the agreement or contract are required and should be publicly accessible (e.g. posted on the respective *CA* and municipal websites). Refer to Appendix G.

The *HCA* will operate in accordance with the provisions of the *CO, MNR & MMAH MOU* when undertaking its role in plan review. This will include informing a municipality as to which of its

comments or inputs, if any, pertain to the *HCA*'s delegated responsibilities for the provincial interest on natural hazards and which set of comments are provided on an advisory basis or through another type of authority (e.g. as a 'resource management agency' or as a 'service provider' to another agency or the municipality).

MNR has natural heritage responsibilities under the *PPS* and some provincial plans for the delineation and technical support in the identification of *natural heritage systems*, the identification or approval of certain *natural heritage features* as *significant* or key features, and the identification of criteria related to these features.

As part of the *HCA* commenting or technical advisory function, the *HCA* will identify *natural heritage features* and systems through the initial plan review process. *HCA* developed *natural heritage systems* are advisory unless corresponding designations and policies are incorporated into the municipal Official Plan (i.e., municipality has the decision-making authority under the Planning Act). Where service agreements are in place with participating municipalities, *CAs* are encouraged to collaborate with local *MNR* District offices to ensure the appropriate and best available information on natural heritage is provided to a municipality. *MNR* is responsible for notifying municipalities and the *HCA* when there is new information about a feature for which *MNR* has responsibilities; for example, a *wetland* is evaluated and approved as a provincially *significant wetland (PSW)*, so that advice can be given and decisions made accordingly.

Where provincial plans and associated guidance materials apply, *HCA* comments shall reflect the policy direction contained in these provincial plans or guidance materials as these pertain to matters relating to *natural heritage systems* and features, including:

1. Definitions of "*significant*" features;
2. Minimum setbacks for these defined features;
3. Outlining a process for determining whether the minimum setbacks are adequate and if not, recommend appropriate setbacks;
4. Specifying permitted uses, setbacks and policies within identified *significant* features;
5. Delineation of *natural heritage systems*;
6. The *HCA* may provide input, as a public commenting body or 'resource management agency', on matters of local or regional interest within their *watershed* with respect to natural heritage with participating municipalities and liaise with the *MNR* regarding natural heritage interests including and beyond those covered by 2.9 (those of "provincial interest") to promote sharing of the most up-to-date natural heritage information and to promote coordinated planning approaches for these interests.

1. 6. 2 Official Plans and Official Plan Amendments

Municipalities maintain their Official Plans (*OP*) to provide general direction for the *development* of their land base and to meet the needs of their population. On occasion the *OP* will require that amendments are made to it or that the entire Plan be rewritten in order to address those amendments and any major changes that have occurred over the course of the existing *OP*.

Under the Planning Act, Municipal Councils must provide agencies that are considered to have an interest in the *OP* adequate information and opportunity to submit comments to any proposed changes. In reviewing such proposals, *HCA* staff should ensure that the *Authority's* policies are reflected in reviews of proposed land use plans and that in all responses to the municipality the

Conservation Authority's position and concerns are clearly stated. Wherever appropriate, recommendations should be made that municipal documents reference identified hazards in accordance with section 3.1 of the Provincial Policy Statement.

1. 6. 3 Zoning By-laws/Amendments

Zoning By-laws put Official Plans into effect through the control of land uses in the municipality. This occurs by detailing exactly how land may be used, where *buildings* and other structures can be located, the types of *buildings* that may be erected and their permitted uses, and lot sizes and dimensions, parking requirements, *building* heights and setbacks.

1. 6. 4 Minor Variances

In instances where only minor changes are required to the zoning provisions that exist on a property (e.g. a small reduction in a yard setback for a structure) a landowner may apply for relief on a site-specific basis. Applications of this nature are minor variances. Every municipality has an appointed Committee of Adjustment who is responsible for reviewing and making decisions on minor variance applications.

The review of minor variance applications provides Conservation Authority staff with the opportunity to monitor and comment on *development* activities in the *flood plain*; as such applications will often pertain to minor structural expansions or the construction of *accessory structures* in the *flood plain*.

Conditions of approval relating to permit requirements as they are outlined by *HCA* Regulation 161/06 under Ontario Regulation 97/04 may be requested by *HCA* staff. Staff should be prepared to attend Committee of Adjustment meetings in order to support *Authority* recommendations. If the Conservation Authority has no objections or concerns with regard to the application this should be clearly indicated in the response.

1. 6. 5 Consents (Severances)

A consent, or severance, is the authorized separation of a piece of land to form two new adjoining properties. If several severances are intended for the same property, the consent granting authority may decide that a plan of subdivision is necessary.

Severance applications should be reviewed with respect to the policies contained within this document and the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation. Generally speaking the *HCA* will not support the creation of new lots within the *flood plain*.

1. 6. 6 Subdivision and Condominium Plans

When a piece of land is divided into three or more parcels, a plan of subdivision may be required. Plans of subdivision will normally have conditions of approval attached to them by various consent granting authorities (e.g. Conservation Authorities, Commissions, and/or municipalities). A condominium is a form of subdivision in which the title to a unit is held by an individual with a share in the rest of the property that is common to all of the owners. The process for condominium plan approval resembles that required for plans of subdivision. The approval

authorities for plans of subdivision will circulate the proposals to the *HCA* for comment in order that matters concerning land conservation and resource management may be addressed.

Conservation Authority concerns are to be addressed on a site-specific basis and should be reflective of the natural features of the area in question. Concerns regarding the management of *flood plains* and natural hazard lands should be reviewed by *HCA* engineering staff, and those pertaining to *wildlife habitat*, *Environmentally Significant Areas* or other *natural heritage features and areas*, by *HCA* staff ecologists.

If the *Authority* has concerns regarding the proposal they may either:

- Propose revisions to the existing plan; or
- Suggest that the Plan is premature as further studies are required; or
- Clearly indicate that the *Authority* is unable to support the Plan due to its lack of conformity with *PPS* policies.

1. 6. 7 Site Plan Controls

Site plans detail the specifics of the *development* proposed for a parcel of land. The conditions set out in a site plan are applied over and above those detailed in zoning By-laws. Generally speaking, site plan controls are used to ensure that: *developments* are built and maintained in a manner that has been agreed on by the approval granting body, proposed *developments* meet certain standards of quality and appearance, there is safe and easy access for pedestrians and vehicles, there is adequate parking, landscaping and drainage, and that nearby properties are protected from incompatible *development*.

1. 6. 8 Conservation Authorities Act Section 28 Permitting

Pursuant to Section 28 of the CA Act, under Ontario Regulation 97/04 “Content of Conservation Authority Regulations under Subsection 28 (1) of the Act: “Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses” (Content Regulation), each *CA* has developed individual regulations approved by the Minister that identify and regulate certain activities in and adjacent to *watercourses* (including *valleylands*), *wetlands*, shorelines of inland lakes and *hazardous lands*. In general, permissions (permits) may be granted where, in the opinion of the *CA*, the control of flooding, erosion, dynamic beaches, *pollution* or the *conservation of land* is not impacted.

An application for a CA Act S. 28 permission (permit) is made, usually by the landowner or an agent on behalf of a landowner or an infrastructure manager and owner such as a Municipal Corporation. Information required to support an application is outlined in the Appendices section of the document.

1. 6. 8. 1 Pre-consultation on Permission (Permit) Applications

Pre-consultation is encouraged to provide clarity and direction, to facilitate receipt of complete applications and to streamline the permit application review and decision making process. To meet these objectives, depending on the scale and scope of the project, pre-consultation may include staff from the following parties: *HCA*, the municipality (for example, planning and engineering staff), the applicant, consultants, the developer and owner, and may be supplemented by staff from provincial ministries, Parks Canada and any other appropriate government agencies; and may occur concurrently with Planning Act pre-consultation.

The *HCA* may request pre-consultation, prior to the submission of a permission (permit) application, to provide an opportunity for the *HCA* and applicants to determine complete application requirements for specific projects. Applicants are encouraged to engage in pre-consultation with the *HCA* prior to submitting an application.

Applicants may request that the *HCA* undertake pre-consultation, prior to the submission of a permit application, to provide an opportunity for the *HCA* and applicants to determine complete permit application requirements for specific projects. The *HCA* will engage in pre-consultation in a timely manner so as not to delay the proponent's ability to submit an application.

In order to determine complete application requirements, applicants should submit in writing adequate information for pre-consultation, such as property information (lot number, concession number, township, etc.), a concept plan of the proposed *development* which shows the property limit, and a description of what is being proposed (i.e. what is being planned and when the work will take place).

The *HCA* will identify and confirm complete application requirements for specific projects, in writing within 21 days of the pre-consultation meeting. However, substantial changes to a proposal or a site visit after pre-consultation may warrant further pre-consultation and/or necessitate changes to the complete application requirements.

1. 6. 8. 2 Complete Permission (Permit) Application

The *HCA* will notify applicants, in writing within 21 days of the receipt of a permit application, as to whether or not the application has been deemed complete.

If a permit application is deemed incomplete, the *HCA* will provide the applicant with a written list of missing and needed information when notifying the applicant that the application has been deemed incomplete.

If not satisfied with the decision on whether an application is deemed complete, the applicant can request an administrative review by the *HCA* Chief Administrative Officer (CAO). This review will be limited to a complete application policy review and will not include review of the technical merits of the application.

During the review of a 'complete application', the *HCA* may request additional information if the *Authority* deems a permit application does not contain sufficient technical analysis. Delays in timelines for decision making may occur due to *HCA* requests for additional information to address errors or gaps in information submitted for review. Thus, an application can be put "on hold" or returned to the applicant pending the receipt of further information. If necessary, this could be confirmed between both parties as an "Agreement to Defer Decision".

1. 6. 8. 3 Decision Timelines for Permissions (Permits)

From the date of written confirmation of a complete application, the *HCA* will make a decision (i.e. recommendation to approve or refer to a Hearing) with respect to a permit application and pursuant to the CA Act within 30 days for a minor application and 90 days for a major application.

Major applications may include those that:

1. Are highly complex, requiring full technical review, and need to be supported by comprehensive analysis
2. Do not conform to *HCA's* existing Planning & Regulation Policies and Guidelines document, including any amendments, updates, or revisions thereto.

If a decision has not been rendered by the *HCA* within the appropriate timeframe (i.e. 30 days for minor applications and 90 days for major applications) the applicant can submit a request for administrative review by the CAO.

Subsequent to receipt of a complete application, delays in timelines for decision making on a permit application may occur due to *HCA* requests for additional information to address errors or gaps in technical information submitted for review. Through an “Agreement to Defer Decision” between the applicant and the *HCA*, applications can be put “on hold” or returned to the applicant pending the receipt of further information to avoid premature refusals of permissions (permits) due to inadequate information.

1. 6. 8. 4 Hearings and Appeals

If the decision is “referred to a Hearing of the Authority Board” the *MNR/CO* Hearing Guidelines will be followed (see Appendix O).

As per the guidelines and subsections 28 (12), 28 (13), 28 (14) and 28 (15) of the CA Act and in summary:

After holding a hearing, the *HCA* shall: refuse the permission; grant the permission with conditions; or, grant the permission without conditions. If the *HCA* refuses permission or grants permission subject to conditions, the *HCA*, shall give the person who requested permission written reasons for the decision.

A person who has been refused permission or who objects to conditions imposed on a permission may, within 30 days of receiving the written reasons appeal in writing to the Minister of Natural Resources.

The Office of the Mining and Lands Commissioner (OMLC) has been delegated the authority, duties and powers of the Minister of Natural Resources under the Ministry of Natural Resources Act O. Reg. 571/00 to hear appeals from the decisions of *CAs* made under CA Act S. 28 regarding a refusal to grant permission (permit) or with respect to conditions imposed on a permission (permit) granted by the *HCA*. The Mining and Lands Commissioner (MLC) may: refuse the permission; or, grant the permission, with or without conditions.

If the applicant does not agree with the MLC decision, under the Mining Act an appeal can then be made to the Divisional Court, a Branch of the Superior Court of Justice.

1. 6. 8. 5 Expiry of Permission (Permit)

By regulation, a permit shall not be extended. The maximum period of validity of a permit is generally 24 months. If the works covered by the application are not completed within the legislated timeframe, the applicant must re-apply and delays in approval may result. Typically, the policies in place at the time of the re-application will apply.

2 Natural Hazards

Within the jurisdiction of the Hamilton Conservation Authority (*HCA*) there are three major natural hazards that are regulated pursuant to the *HCA* Regulation 161/06 under Ontario Regulation 97/04 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation). *River and stream systems*, shorelines, and *hazardous sites* are of public interest and can pose a risk to property and human safety by causing flooding, slope failure, and unexpected collapsing of the land. The following sections outline policies and guidelines for regulating *development* and *site alteration* and for providing planning advice to our municipalities within the limit of these *hazardous lands*.

When reviewing *development* proposals within these *hazardous lands*, *Authority* staff will refer to the River and Stream Systems: Flooding Hazard Limit Technical Guide found in Adaptive Management of Stream Corridors in Ontario (*MNR & Watershed Science Centre*, 2001), and any amendments, updates, or revisions thereto. Where a discrepancy exists between this policy document and the *MNR* Technical Guides, the latter document will prevail. Each *development* proposal should utilize *Best Management Practices (BMPs)* and should provide all opportunities for protection and rehabilitation of natural features and their *ecological functions*.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

2.1 River and Stream Systems

Flooding and *erosion hazards* put people at risk, can cause extensive damages to property and infrastructure, and cause social and economic disruption to the communities that are affected. *River and stream systems* can be affected by severe flooding events or *valley slope* failures along shorelines.

Over the years there have been thousands of flood events in Ontario with varying impacts on lands, property, and human populations. By managing flood prone lands proactively, in conjunction with appropriate protective and emergency response measures, it is possible to mitigate many of the damaging effects of river and stream flooding.

The Provincial Policy Statement recognizes unacceptable risks associated with such events, and has required municipalities to address hazard lands (which include *valleyland* systems and flood and erosion prone lands along riverine systems) in their Official Plan (*OP*) processes. Much of the responsibility for such areas has subsequently been delegated to the Conservation Authorities, who have the required technical and professional expertise for managing such lands.

Development within the Regulation limit of the *Authority's* jurisdiction is governed by the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (*HCA* Regulation 161/06 under Ontario Regulation 97/04).

The hazard limit of *river and stream systems* is delineated by the Ontario Ministry of Natural Resources (*MNR*) standards and criteria and consists of both *flooding hazards* and *erosion hazards* along the shoreline. These standards and criteria are provided in Appendix C.

2. 1. 1 Flooding Hazard Limit

The Hamilton Conservation Authority manages *flood plain* lands at the *Regulatory Flood* level of the Regional Storm (*Hurricane Hazel*) with the exception of those numbered *watercourses* in the Stoney Creek area that have undergone a criteria reduction in the *Regulatory Flood* level to the *100 year flood* event and the *Special Policy Areas (SPAs)* in Dundas. The Conservation Authority manages these lands as one zone areas with the exception of the Dundas *SPAs*, which utilize the *floodway* and *flood fringe* management approach, and are treated as two zone areas.

As they currently exist, the Dundas *SPAs* were created in 1999 as the result of an Official Plan amendment, which amalgamated and officially designated a wider range of *SPAs*. There are now four officially recognized *SPAs* within the former municipality of Dundas, which are regulated through a set of policies separate from those used for the Hamilton Conservation Authority's one zone areas. The policies for the former Town of Dundas *SPAs* are provided in Section 2.1.1.4.1 within this document.

2. 1. 1. 1 Permitted Uses in the Flood Plain

- Agriculture or open space/recreational uses that do not require permanent, closed structures or any major alteration of the landscape;
- Flood, erosion and sediment control structures;
- Gardens, nurseries and *open arboretums*;
- Other non-structural uses such as forestry and wildlife management;
- *Replacement structures* or minor *additions* to existing structures;
- Municipal infrastructure such as water treatment facilities/wastewater discharge/water intakes, pumping stations, etc. that must be located in the *flood plain* as determined through the Class *EA* process; and
- Any other relevant or appropriate use and/or *development* as deemed satisfactory by the *Authority*.

2. 1. 1. 2 Prohibited Uses in the Flood Plain

- Institutional uses associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young during an emergency as a result of flooding, failure of *floodproofing* measures or protection works, or erosion;
- An essential emergency service such as that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of flooding, the failure of *floodproofing* measures and/or protection works, and/or erosion;
- Uses associated with the disposal, manufacture, treatment or storage of *hazardous substances*; and
- Any other use and/or *development* as deemed unsatisfactory by the *Authority*.

2.1.1.3 One Zone Areas

One zone areas are those where the Conservation Authority prohibits all *development* or *site alteration* within the boundaries of the *Regulatory Flood* level. This is the most effective way of minimizing threats to public health or safety or property damage. 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 of property damage and social disruption. Where the *one zone concept* is applied, the entire *flood plain* or the entire *flooding hazard limit* defines the *floodway* (Figure 3).

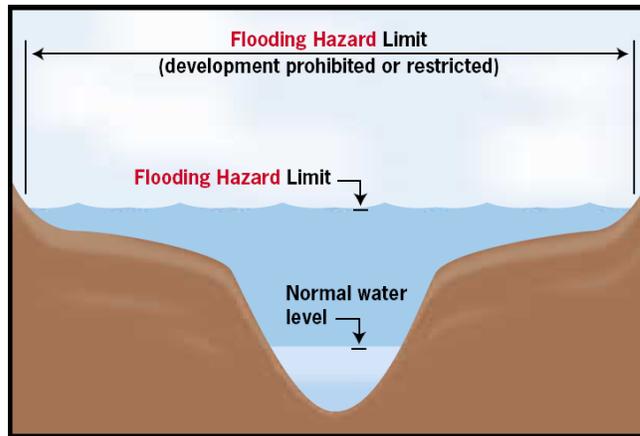


Figure 3: Flooding Hazard Limit for One Zone Concept

2.1.1.3.1 Development

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and within the *flooding hazard limit* for one zone areas must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. With the exception of those uses outlined in Section 2.1.1.1, and under the provisions of these *development* policies and sub-policies, *development* within the *flood plain* will be prohibited in all one zone areas.
- b. In spill areas, *development* may be permitted in areas where flooding depths are less than or equal to 0.3 m and/or flooding velocities are less than or equal to 0.3 m/sec. Supporting calculations to assess onsite and offsite flood elevation impacts may be required. Only *developments* with no net impacts on flood elevations will be considered. *Dry floodproofing* measures with a 0.3 m freeboard above the *Regulatory Flood* elevations will be required.
- c. Interior renovations to any *building* or structure that do not alter the use or potential use, do not increase the size, and do not increase the number of *dwelling units* of that *building* or structure will only require a letter of permission from the *Authority* pursuant to *HCA Regulation 161/06* under Ontario Regulation 97/04.

- d. *Development* and/or *site alteration* that is within the Regulation limit but outside of hazard limits generally will only require a letter of permission from the *Authority* pursuant to *HCA* Regulation 161/06 under Ontario Regulation 97/04.

2.1.1.3.1.1 Additions and Replacement Structures

Additions and *replacements* of the structures listed in Policies 2.1.1.1 and 2.1.1.3.1 will be permitted in one zone areas provided they meet the following conditions to the satisfaction of the *Authority*.

- a. Applications for the reconstruction of structures that have been destroyed or extensively damaged by flooding and that would be subject to the same level of risk will not be supported by the *Authority*.
- b. In no instance shall an *addition* or renovation be more flood vulnerable than the existing structure, nor shall the flood vulnerability of the existing structure be increased as a result of the *addition*.
- c. A minor *addition*, including the basement area, shall be less than 50% of the *original ground floor area* and does not increase the number of *dwelling units* of the existing structure. Minor *additions* may be permitted in the *flood plain* subject to the following conditions:
- i. Where *Authority* staff deem it to be necessary, the proponent shall be required to complete a hydraulic analysis at their own expense;
 - ii. Proposed *additions* may not cause a new or aggravate an existing hazard;
 - iii. Minor *additions* to an existing *building* should incorporate *floodproofing* measures to the extent and level possible, based on site-specific conditions. At a minimum, the *addition* should not be more flood vulnerable than the existing structure, in that no openings on the *addition* are to be below the elevation of existing openings;
 - iv. Wherever possible, minor *additions* should be constructed 0.3 m (1 foot) above the level of the *Regulatory Flood*;
 - v. Minor *additions* will only be permitted where existing flood depths do not exceed 0.8 m and the velocity does not exceed 1.7 m/sec;
 - vi. Vehicles and people must have a way of safely entering and existing the area during times of flooding, erosion and other emergencies;
 - vii. New basements will be permitted as part of an *addition* only if the existing main structure already has a basement. Crawl spaces will not be considered a basement area; and
 - viii. Subsequent requests for *additions* which will result in the cumulative exceedance of the maximum permitted allowance, as based on the *original ground floor area*, shall not be permitted.
- d. A major *addition* shall exceed or be equal to 50% of the *original ground floor area* of the existing structure. Major *additions* shall not be permitted in the *flood plain* in one zone areas with the exception of those provisions detailed in Section 2.1.1.3.1.
- e. *Replacement structures* shall be restored to their original form (i.e. same dimensions, square footage, and *building* footprint), provided they were not destroyed by flooding.

- f. Locating *replacement structures* or *additions* on a portion of the property where the *flooding hazard* is the least significant must be examined in the case of all proposals and applied wherever possible.
- g. *Replacement structures* will require that *dry passive floodproofing* to the level of the *Regulatory Flood* be implemented to the fullest extent possible. In no case shall the proposed *development* be more flood susceptible than the previous structure.
- h. The finished floor/lowest opening of any *replacement structure* is to be constructed 0.3 m (1 foot) above the level of the *Regulatory Flood*, if possible.
- i. Any walls or floor space located below the level of the *Regulatory Flood* must be capable of withstanding the hydrostatic pressures of elevated water tables. Proposals that intend to utilize such measures will require professionally engineered and approved plans.
- j. Wherever possible, all electrical panels and outlets should be located 0.3 m above the level of the *Regulatory Flood*. Where this is not reasonable, electrical equipment must be located no lower than the level of the *Regulatory Flood* and be *floodproofed* to the greatest extent possible.
- k. The existing stage/storage of the *Regulatory Flood plain* must be maintained.
- l. *Replacement structures* must be constructed and located such that vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies.

2. 1. 1. 3. 1. 2 Accessory Structures

Accessory structures shall be permitted within the *flood plain* provided that they meet the following conditions to the satisfaction of the *Authority*:

- a. *Accessory structures* less than 10 m² (108 sq. ft.) will not require a permit pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04, however the *Authority* requires a minimum 6 m *erosion access allowance*, where possible, from the *top of slope* or the *toe of slope* and/or a 15 m setback from the channel bank of any *watercourse* is maintained. *Accessory structures* greater than or equal to 10 m² will require a permit. Any proposed *accessory structure* that is greater than or equal to 28 m² (300 sq. ft.) in size must meet the requirements of Section 2.1.1.3.1.
- b. *Accessory structures*, greater than 10 m² (108 sq. ft.) but less than 28 m² (300 sq. ft.) in size, will generally not be permitted within the *flood plain*, subject to the following:
 - i. *Accessory structures* will only be permitted within the *flood plain* if it can be demonstrated to the satisfaction of the *Authority* that the structure cannot reasonably be located elsewhere on the property;
 - ii. The *accessory structure* must not increase the *Regulatory Flood* elevation. Such determinations are to be made by a professional engineer, and must be to the satisfaction of the *Authority*; and
 - iii. *Accessory structures* must be *wet floodproofed* to the level of the *Regulatory Flood* when erected in the *flood plain*.

- c. Above-ground swimming pools shall not be permitted in the *flood plain*.
- d. In-ground swimming pools may be permitted provided that all *fill* is removed from the *flood plain*.
- e. In providing a permit for an *accessory structure*, *Authority* staff will ensure that the applicant is aware that all other zoning By-laws and municipal building requirements must also be met prior to the erection of the structure.

2. 1. 1. 3. 1. 3 Fencing

- a. Fencing projects will not be required to secure a permit.

2. 1. 1. 4 Two Zone Areas

The *two zone concept* identifies the *floodway* and *flood fringe* (Figure 4). The *floodway* refers to that portion of the *flood plain* where *development* and *site alteration* would cause a threat to public health and safety and property damage. In other words it is that portion of the *flood plain* 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 property damage. The *flood fringe* is the portion of the *flood plain* where *development* may be permitted subject to certain policies and procedures. Some factors to take into account when determining the more hazardous areas of *flood plains* include depth of water, velocity of flow, combined depth and velocity, vehicle access and structural integrity (*MNR & Watershed Science Centre, 2001*).

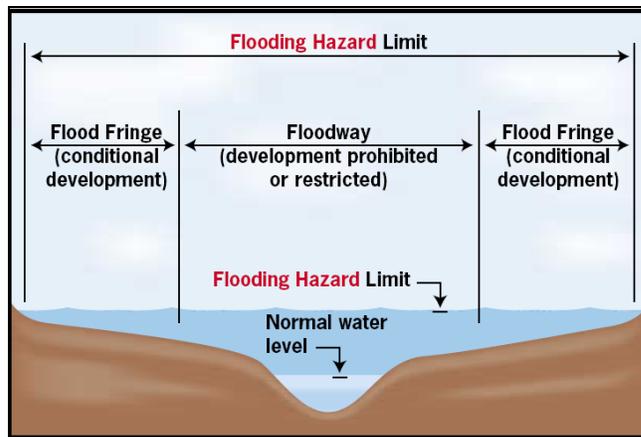


Figure 4: Flooding Hazard Limit for Two Zone Concept

2. 1. 1. 4. 1 Special Policy Areas

Due to historical *development* in the now former Town of Dundas, the *HCA* and the Town underwent a technical assessment and Official Plan (*OP*) consolidation in October of 2000. This had the effect of creating four designated *Special Policy Areas (SPAs)* within the former Town of Dundas and these lands are managed as two zone areas. In instances where *Authority* staff receive applications for *development* within the *SPAs* of the Spencer Creek watershed for *hazardous lands* surrounding the Spencer, Sydenham, and Anne Creeks they will refer to the following policies.

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and within the former Town of Dundas *Special Policy Areas (SPAs)* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. When considering *development* within *SPAs* in the former Town of Dundas, *Authority* staff will refer to, and require conformity to, *SPA* policies within the former Town of Dundas' *OP*, dated October 27 2000, or any amendments, updates, or revisions thereto (see Appendix H). At such a time that the new City of Hamilton's *OP SPA* policies are in effect, *Authority* staff will refer to, and require conformity to, the City of Hamilton's *OP SPA* policies or any amendments, updates, or revisions thereto.
- b. All *floodproofing* measures noted in the *SPAs* policies will be in accordance with Section 8.1, of this document, and its sub-sections.
- c. Where the former Town of Dundas *OP*, dated October 27 2000, refers to Ontario Regulation 151/90 (Fill, Construction and Alteration to Waterways), *HCA* Regulation 161/06 under Ontario Regulation 97/04 will prevail.
- d. The Conservation Hazard Lands designations in respect to *SPA 2*, noted within the former Town of Dundas *OP*, dated October 27 2000, will be found within Appendix H. At such a time that the new City of Hamilton's *OP* Conservation Hazard Land policies are in effect, *Authority* staff will refer to the City of Hamilton's *OP* Conservation Hazard Land policies or any amendments, updates, or revisions thereto.
- e. Where *additions* and *replacement* structures are noted in respect to *SPA 3*, Section 2.1.1.3.1.1, of this document, will be utilized.

2. 1. 1. 5 Cut and Fill Operations

Cut and *fill* is a technique that is used to balance flood storage losses resulting from the placement of *fill* within a *flood plain*. This is achieved by removing a volume of earth at the appropriate elevation and location to offset areas within the *flood plain* to be filled. The suitability of cut and *fill* operations is extremely site-specific.

It should be recognized that in conducting a cut and *fill*, additional flood free lands are not obtained. A cut and *fill* will only serve to transfer floodwaters from one area to another as a result of the manipulation of the land's contours. In reviewing applications that will require cut and *fill*, the following policies will be applicable.

2. 1. 1. 5. 1 General Policies

The *Authority* does not encourage cut and *fill* operations as this type of *development* alters the existing contours of the *flood plain* which can lead to potential safety risks to both property and life. Any proposals that involve cut and *fill* operations within the jurisdiction of the *Authority* and within the *flooding hazard* limit must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The preservation of *valleylands* and natural vegetation must be taken into account in all proposed cut and *fill* operations.

- b. The amount of *fill* removed (cut) must be equal to or greater than the volume of *fill* proposed for placement within the *flood plain*.
- c. All excess *fill* material removed (cut), as part of this operation, shall be required to be moved to an area that is outside of the *flood plain*.
- d. Cut and *fill* must be balanced in 0.3 m (1 foot) increments.
- e. No *negative impacts* on the hydraulic conveyance capabilities of the *watercourse* will be permitted.
- f. Depending on the location of the proposed works, a geotechnical evaluation may be required in order to ensure the long-term stability of the works (Appendix I).
- g. A cut and *fill* plan must be submitted and meet all requirements of Appendix J.

2. 1. 1. 5. 2 *Hydraulic Analysis Requirements*

In order to ensure that there is no significant impact on upstream or downstream flooding and erosion potential, a hydraulic analysis will be required for existing and proposed conditions. HEC-RAS is a backwater model developed by the US Army Corps of Engineers and is most widely used in *flood plain* management. Accordingly, it is the only model discussed in this document.

At a minimum, this analysis shall be required to submit the following information:

- a. When generating a flood line the following information is required:
 - i. Explanation of how the starting water level was determined;
 - ii. A description of how/where flow values utilized in the model were determined;
 - iii. A topographic map showing cross-sections and flood lines; and
 - iv. Hard copy and electronic files of the input and output for existing and proposed conditions and Edit 2 results.

2. 1. 1. 6 *Flood Plain Dedication*

- a. *Flood plain* lands will only be accepted through dedication in accordance with the *Authority's* lands acquisition policy.

2. 1. 2 Erosion Hazard Limit

Erosion hazards mean the loss of land, due to human or natural process, that pose a threat to life and property. The *erosion hazard limit for river and stream systems* is determined by using the 100 year erosion rate (the average annual rate of recession extended over a hundred year time span), and includes allowances for toe erosion, slope stability, and access during emergencies. The *erosion hazard* component of *river and stream systems* is intended to address both, erosion potential of the actual river and stream bank, as well as erosion or potential slope stability issues related to valley walls through which rivers flow. The application of the *erosion hazard* limit will depend on whether the *watercourse* flows through a well defined valley system and is confined within a valley corridor or whether it flows through landscapes that are relatively flat, and is not confined or bounded by valley walls.

Generally, *development* should not occur on or on top of valley walls because the long-term stability of the slope, and therefore public health and safety, cannot be guaranteed. *Development* should be set back from the top of valley walls far enough to avoid increases in loading forces on the top of the slope, changes in drainage patterns that would compromise slope stability or exacerbate erosion of the slope face, and loss of stabilizing vegetation on the slope face.

In order to determine what the *erosion hazard* limit for *river and stream systems*, the following components must be taken into consideration. These components would be utilized to a varying degree depending on whether the stream system is *confined* or *unconfined*. If the stream system was considered a *confined system* then one would consider if the slope is stable or unstable. Not all of these components would be utilized for one *river or stream system*.

The following defines how the *erosion hazard* limit was established for *HCA Regulation 161/06* under *Ontario Regulation 97/04*:

- a. *Toe erosion allowance*, determined using one of the following methods:
 - i. The average annual recession rate as based on 25 yrs worth of accumulated erosion data over a 100 year planning horizon; or
 - ii. Up to a 15 m *toe erosion allowance* measured inland horizontally and perpendicular to the toe of the *watercourse* slope where the distance between the *watercourse* and the base of the valley wall is ≤ 15 m; or
 - iii. Based on a valid study, which is based on 25 yrs worth of accumulated erosion data; or
 - iv. An analysis based on soil types and hydraulic processes or analytical studies, where the *watercourse* is ≤ 15 m from the base of the valley wall. Table 1 details the minimum *toe erosion allowances* for specific soil types. If valid studies indicate that allowances should be greater than those indicated within the table, the greater of the two will be utilized;
- b. A *stable slope allowance* of 3(H):1(V) or as determined by a valid study;
- c. A *meander belt allowance*; and

- d. An *erosion access allowance*. The *Authority* requires a minimum 6 m *erosion access allowance* is utilized, where possible. If the width of the allowance is determined to be insufficient, then *Authority* staff may require that a wider allowance be established.

Type of material Native Soil Structure	Evidence of active erosion or where the bankfull flow velocity is greater than competent flow velocity	No evidence of active erosion		
		bankfull width		
		<5m	5-30m	>30m
Hard rock (e.g. granite)	0-2m	0m	0m	1m
Soft rock (shale, limestone), cobbles, boulders	2-5m	0m	1m	2m
Clays, clay-silt, gravels	5-8m	1m	2m	4m
Sand, silt	8-15m	1-2m	5m	7m

Table 1: Minimum toe erosion allowance - where river is within 15 m of slope toe

2. 1. 2. 1 Erosion Hazard Limit for Confined Systems

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. The *watercourse* may be located at the toe of the *valley slope*, in close proximity to the toe of the *valley slope* (less than 15 m), or removed from the toe of the *valley slope* (more than 15 m). The *watercourse* can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels.

The following defines how the *erosion hazard* limit for *confined systems* was established for HCA Regulation 161/06 under Ontario Regulation 97/04:

- a. The *erosion hazard* limit for *confined river and stream systems* shall be the greater of (Figure 5 & Figure 6):
- i. The *toe erosion allowance* (as outlined in Section 2.1.2). *Toe erosion allowance* is only considered for *watercourses* located less than 15 m from the *toe of slope*;
 - ii. A *stable slope allowance* (3:1) or as determined by a valid study; and
 - iii. An *erosion access allowance* of 6 m, where possible, or as determined by a valid study.

OR

- i. As determined by a valid study which takes into consideration all of the above criteria.
- b. The *Authority* may, where it is deemed necessary, require the proponent to submit a geotechnical evaluation in order to determine the safety and potential impacts of the proposed *development* (see Appendix I).

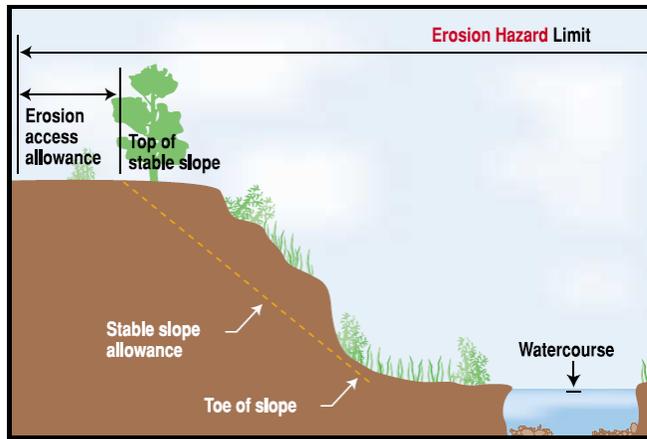


Figure 5: Erosion Hazard Limit for a Confined System (where toe of slope is more than 15 m from watercourse)

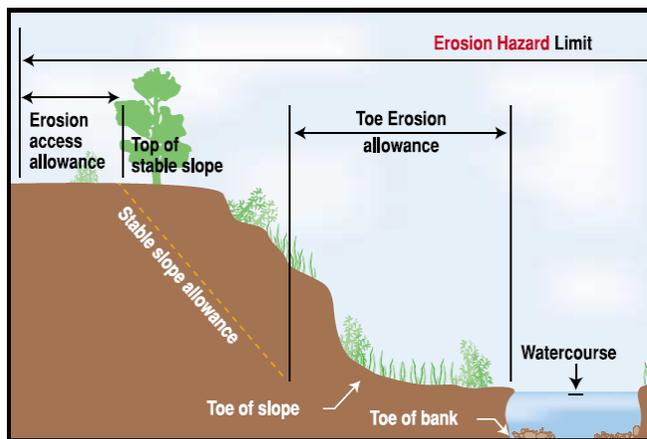


Figure 6: Erosion Hazard Limit for a Confined System (where toe of slope is less than 15 m from watercourse)

2.1.2.1.1 *Stable Slopes*

Section 2.1.2.1 and Section 2.1.2.3, and their sub-sections, shall apply to stable slopes in addition to the following policies and guidelines.

- a. A slope which, through a surface inspection, **does not** reveal evidence of any of the following:
 - i. Bare slope areas, e.g. no vegetation;
 - ii. Outward tilting of trees;
 - iii. Toe erosion at the base of the slope;
 - iv. The addition of *fill*;
 - v. An easily erodable soil type;
 - vi. Slumping, gullyng or other visible erosion processes; or
 - vii. An angle greater than 3(H):1(V),

Shall be subject to the application of the following policies:

1. The physical *top of slope* is to be established through a site visit by *Authority* staff and, where appropriate, in consultation with municipal staff.
2. When measuring *top of slope* the *Authority* recommends that *disconnected features* be included on a case by case basis. These cases shall be reviewed by *Authority* staff in conjunction with the appropriate municipal authorities.
3. The *Authority* requires a minimum 6 m *erosion access allowance*, where possible, from the *Authority* approved physical *top of slope* for any *development* and/or *site alteration*. This includes swimming pools, sub-surface sewage disposal systems and the placement of *fill*. Wherever possible existing vegetation should be maintained in the setback areas.
4. The *Authority* requires that any *development* and/or *site alteration* maintains a minimum 6.0 m *erosion access allowance*, where possible, from the *Authority* approved *toe of slope*.
5. The *Authority* will require that an appropriate limit of construction fence is erected a minimum of 3 m from the top of stable slope, and maintained during construction to discourage dumping of *fill* material and disturbance of the vegetation on the *valley slope*.

2.1.2.1.2 *Unstable Slopes*

Policies 2.1.2.1 and 2.1.2.3, and its sub-policies, shall apply to unstable slopes in addition to the following policies and guidelines.

- a. A slope which, through a surface inspection, **does** reveal evidence of any of the following;
 - i. Bare slope areas, e.g. no vegetation;
 - ii. Outward tilting of trees;
 - iii. Toe erosion at the base of the slope;
 - iv. The addition of *fill*;
 - v. An easily erodable soil type;
 - vi. Slumping, gullyng or other visible erosion processes; or
 - vii. An angle greater than 3(H):1(V),

Shall be subject to the application of the following policies:

1. In all instances where the stability of the bank is questionable the *Authority* will require the proponent to submit a geotechnical report undertaken by a qualified professional (Appendix I). This is required in order to assess the appropriate *erosion hazard* limit and setback from an unstable slope as well as the slope stability, as they relate to the specific *development* proposal. Reports should also provide recommendations for approaches to stabilizing the slope if necessary.

2. At minimum, all reports must include:
 - A. The nature and property of soils;
 - B. Information regarding average annual recession rate;
 - C. *Toe erosion allowance*, where a stream is less than 15 m from the *toe of slope* and not in a meander belt; and
 - D. The allowance for a stable slope.

3. The *Authority* requires a minimum 6 m *erosion access allowance*, where possible, from the *stable slope allowance* and from the *Authority* approved *toe of slope* for any *development* and/or *site alteration*.

2. 1. 2. 2 Erosion Hazard Limit for Unconfined Systems

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. The *watercourse* can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels.

The following defines how the *erosion hazard* limit for *unconfined systems* was established for *HCA* Regulation 161/06 under Ontario Regulation 97/04:

- a. The *erosion hazard* limit for *unconfined river and stream systems* shall be the greater of (Figure 7):
 - i. The *floodings hazard* limit; or
 - ii. The *meander belt allowance*; or
 - iii. As determined by a valid study; plus
 - iv. An *erosion access allowance* of 6 m, where possible, or as determined by a valid study.

- b. The *Authority* may, where it is deemed necessary, require the proponent to submit a geotechnical evaluation in order to determine the safety and potential impacts of the proposed *development* (see Appendix I).

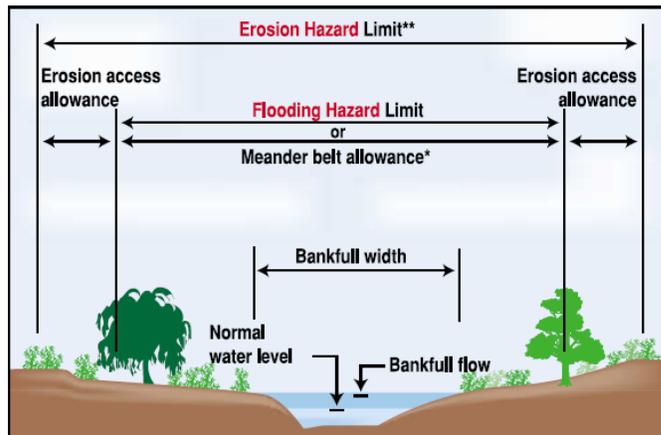


Figure 7: Erosion Hazard Limit for an Unconfined System

* the bankfull channel width with the largest amplitude meander in the reach is used to determine the meander belt width

** the erosion access allowance is also added to the flooding hazard limit, when known, to define the erosion hazard limit

2. 1. 2. 2. 1 Meander Belt Allowance

The width of a meander belt can be determined by analyzing the bankfull channel width of the largest amplitude meander. The *meander belt allowance* is defined as 20 times the bankfull channel width of the reach and centred on the meander belt axis (Figure 8). When determining the meander belt for relatively straight reaches, the meander belt should be centred on the mid-line of the channel.

Section 2.1.2.3 shall apply to the *meander belt allowance* in addition to the following policies and guidelines.

- a. Any *development* and/or *site alteration* proposal which is within the *meander belt allowance* must be supported by a valid engineering study and/or an Environmental Impact Statement (EIS).
- b. *Buildings* and structures located within the *meander belt allowance*, other than those destroyed by erosion or flooding, will be permitted to be replaced or relocated within the *meander belt allowance* provided the *buildings* or structures are of the same size and use, contain the same number of *dwelling units* and where the works will not increase the risk to life or damage to properties as a result of erosion.
- c. Locating the *building* or structure on a portion of the property where the *flood hazard* and/or *erosion hazard* is the least significant must be examined in the case of all proposals and applied wherever possible.

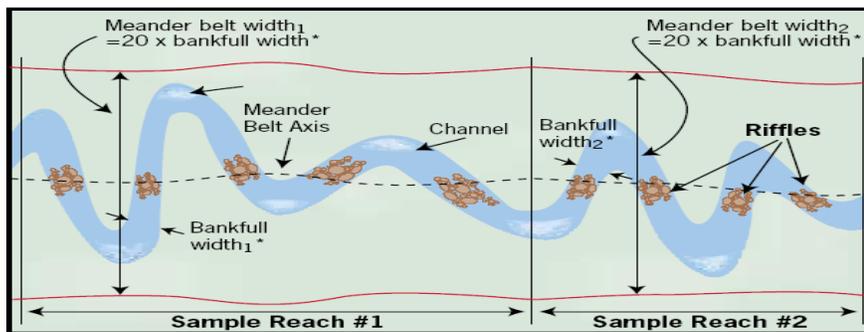


Figure 8: Meander Belt

* use bankfull channel width of largest amplitude meander in the reach to determine the meander belt width

2. 1. 2. 3 Development

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and within the *erosion hazard* limit and/or in, on or adjacent to *valleylands* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. *Development* activities and uses on natural *valley slopes* will generally be prohibited. At its discretion, however, the *Authority* may permit the following uses:
 - i. Passive recreation and associated structures (e.g. staircases);
 - ii. Structures associated with erosion and sediment control; and
 - iii. Any other relevant or appropriate use and/or *development* as deemed satisfactory by the *Authority*.
- b. *Development* is not permitted in *significant valleylands* unless it can be demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or the *ecological functions* for which the area is identified.
- c. *Development* will not be permitted on lands adjacent to *significant valleylands* (50 m from the boundary of the *valleyland*) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*.
- d. Any *development* proposals adjacent to *valleylands* must be located outside of the *erosion hazard* limit and incorporate a *vegetation protective zone* appropriate for the features associated with that valley.
- e. Increased fragmentation of ownership within *valleylands* and riverine systems will be discouraged by the *Authority*. Possible occurrences of fragmentation should be monitored through the plan review process.
- f. The *Authority* will encourage the municipality to designate all *valleylands* in their Official Plans in a manner that recognizes their inherent environmental characteristics and limitations to *development* and to zone *valleylands* within appropriate open space zoning.
- g. Where new lots are created near *valleylands* the *Authority* will encourage their creation outside of the hazard land limits.
- h. The *Authority* requires that a minimum *erosion access allowance* of 6 m wide be incorporated into the *development* proposal, where possible, and that the *erosion access allowance* permit access from a municipal roadway to and along the *top of slope* for regular maintenance purposed and/or to repair protection works. Side yard access allowances may be shared between adjacent landowners provided that the shared easement is registered on title.
- i. The proponent shall be required to demonstrate to the satisfaction of the *Authority* that the proposed *development* includes the presence of a *building* envelope that incorporates all relevant setbacks from the natural features of the property and conforms to all applicable zoning By-law requirements.
- j. The *Authority* will encourage the re-establishment of native and locally appropriate vegetation on disturbed *valley slopes* in order to minimize soil erosion both during and after construction. Where *Authority* staff deem it to be necessary, the proponent will be required to submit a vegetation plan based on those guidelines established in Section 10.1 of this document.
- k. The *Authority* will encourage overland drainage to be directed away from *valley slopes* when reviewing *development* proposals on existing lots of record and newly created lots, in areas adjacent to valley systems.

- l. Where *fill* placements, grade modifications or other *development* activities are proposed within or adjacent to *valleyland* areas, those guidelines established in Section 5.1 (Fill Placement and Grade Modifications) and Section 9.1 (Erosion and Sediment Control Standards) of this document shall be applied wherever appropriate.
- m. Interior renovations to any *building* or structure that do not alter the use or potential use, do not increase the size, and do not increase the number of *dwelling units* of that *building* or structure will only require a letter of permission from the *Authority* pursuant to *HCA* Regulation 161/06 under Ontario Regulation 97/04.
- n. *Development* and/or *site alteration* that is within the Regulation limit but outside of hazard limits generally will only require a letter of permission from the *Authority* pursuant to *HCA* Regulation 161/06 under Ontario Regulation 97/04.

2. 1. 2. 3. 1 *Additions and Replacement Structures*

- a. *Additions* to existing structures may be permitted provided that they are located outside of the *erosion hazard* limits.
- b. Any proposed *addition* or *replacement structure* may be subject to a geotechnical report at the expense of the proponent if the *Authority* deems it to be necessary (Appendix I).
- c. When necessary the *addition*, renovation, basement or *replacement structure* will be subject to the *floodproofing* requirements of *Authority* staff and as determined by Section 8.1, and its sub-policies.
- d. *Replacement structures* shall be restored to their original form (i.e. same dimensions, square footage, and footprint).
- e. Locating *replacement structures* or *additions* on a portion of the property where the *erosion hazards* are the least significant must be examined in the case of all proposals and applied wherever possible. An *addition* will only be permitted within the *erosion hazard* limit if it can be shown that the structure cannot reasonably be located elsewhere on the property and the *addition* does not encroach any further into the *erosion hazard* limit than the existing structure.

2. 1. 2. 3. 2 *Accessory Structures*

- a. *Accessory structures* less than 10 m² (108 sq. ft.) will not require a permit pursuant to *HCA* Regulation 161/06 under Ontario Regulation 97/04, but the *Authority* requires a minimum 6 m *erosion access allowance*, where possible, from the *top of slope* or the *toe of slope* and/or a 15 m setback from the channel bank of any *watercourse* is maintained. *Accessory structures* greater than or equal to 10 m² will require a permit. Any proposed *accessory structure* that is greater than or equal to 28 m² (300 sq. ft.) in size must meet the requirements of Section 2.1.2.3
- b. *Accessory structures*, greater than 10 m² (108 sq. ft.) but less than 28 m² (300 sq. ft.) in size, will generally not be permitted within the *erosion hazard* limits, subject to the following:

- i. That any proposed *accessory structure* will only be permitted if it can be demonstrated to the satisfaction of the *Authority* that the structure cannot reasonably be located elsewhere on the property;
- ii. That any proposed *accessory structure* may be subject to a geotechnical study conducted at the expense of the proponent if the *Authority* deems it to be necessary (Appendix I); and
- iii. That a geotechnical study noted in (ii) above is to the satisfaction of the *Authority*.

2.1.3 Alterations to Watercourses

Any *alteration to a watercourse* within the jurisdiction of the *Authority* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The *Authority* shall encourage municipalities to place restrictive zoning on *watercourse vegetation protective zones*.
- b. Any *alterations to a watercourse* shall be designed in accordance with natural channel design principles, as outlined in *Adaptive Management of Stream Corridors in Ontario (MNR & Watershed Science Centre, 2001)*, to the maximum extent possible and where applicable.
- c. *Alterations to a watercourse* will be evaluated on an individual basis, having consideration for the following:
 - i. No *negative impacts* on the natural features or on the *ecological functions*, including *fish* and wildlife requirements as set out by other federal, provincial or municipal legislation/plans/technical guidelines and a *net environmental benefit* is achieved;
 - ii. Maintenance of the natural topography of the *watercourse* system, flood conveyance and flood storage;
 - iii. No adverse impacts upstream and/or downstream of the proposed works in respect to fluvial geomorphological processes, storage capacity of the *flood plain*, *flood plain* elevations, flood frequency, erosion rates or erosion frequency along either side of the *watercourse*;
 - iv. No adverse impacts on *ground water features* and recharge/discharge;
 - v. Geotechnical issues are addressed to the satisfaction of the *Authority*; and
 - vi. Adequate erosion and sediment control measures are incorporated and utilized during the construction phase.
- d. An *alteration to a watercourse* shall only be permitted with prior written approval of the *Authority*. An exception is made for activities conducted pursuant to the Drainage Act, where the *Authority* has an opportunity to work in cooperation with member municipalities and other approval agencies (including Fisheries and Oceans Canada – *DFO*) to consider and mitigate the environmental impacts of drain maintenance and new drainage proposals.
- e. Notwithstanding Policy 2.1.3 (d), bridges and other major structures proposed on municipal drains will require prior written approval from the *Authority*.
- f. The *quality and quantity of water* within *watercourses* shall be protected, improved or restored by minimizing potential *negative impacts* including cross-jurisdictional and cross-*watershed* impacts.

- g. The *Authority* generally does not support proposals to realign or re-channelize natural *watercourses*. The proposal may be considered if the alteration provides flood relief, erosion control, *fish habitat*, and/or environmental enhancement to the *Authority's* satisfaction. Approvals from other agencies may be required.
- h. The *Authority* will require an undisturbed *vegetation protective zone* running consistently along both sides of all *watercourses*. A reduction in the *vegetation protective zone* will not be considered for *development* and/or *site alteration* proposals. Exceptions may be considered for *additions, replacement structures* and *accessory structures*, where locating *buildings* and/or structures outside of the *vegetation protective zone* is not viable. The *vegetation protective zone* is to be measured perpendicularly outward from each of the two edges of the bankfull width with the following provisions.

NOTE: *Authority* staff will use thermal regimes documented at the time these policies were approved by the Board of Directors. In all cases, the methods of Stoneman, C.L. and Jones, M.L. (1996) will be utilized to determine the thermal regime of a *watercourse*.

- i. A minimum 15 m (49 ft.) *vegetation protective zone* for all warmwater *watercourses* (30 m total);
 - ii. A minimum 30 m (98 ft.) *vegetation protective zone* for all coldwater or marginally coldwater (coolwater) *watercourses* (60 m total). Where *watercourses* have not been studied as to thermal regimes or *fish* population, the 30 m *vegetation protective zone* is required;
 - iii. Greater *vegetation protective zones* may be required in some areas as a result of sensitive soil conditions (e.g. high permeability, shallow soil depths, steep slopes, or extensive organics, etc.) and/or in the habitat of *endangered* or *threatened species*;
 - iv. The *vegetation protective zone* may be required to be enhanced as determined by the *Authority*;
 - v. The *vegetation protective zone* for a meandering stream shall be the greater of either the *meander belt allowance* or the required *vegetation protective zone* for warmwater, marginally coldwater, or coldwater *watercourses*;
 - vi. *Best Management Practices (BMPs)* should be used where the *vegetation protective zone* is interrupted to allow *watercourse* crossings, as permitted in Section. 2.1.3. An interruption should occur only where it is proven to be least intrusive; and
 - vii. Trails and paths may be allowed in the *vegetation protective zone* provided that:
 1. The trail or path is located outside of *erosion hazard*, except for crossings;
 2. The trail or path should not come closer than 4 m to the edge of a *watercourse*, except for crossings, unless it has been demonstrated through the completion of an Environmental Impact Statement (*EIS*) that there will be no *negative impacts* on the natural features or on their *ecological functions*;
 3. The trail or path does not impede the natural function of *valleylands*;
 4. Permeable surfacing is recommended for trail or path construction; and
 5. There is a compensating *vegetation protective zone* allowance added to the width of the *vegetation protective zone*.
- i. The *Authority* will consider *watercourse* crossings with the following provisions:
- i. That the crossings are proposed to be located in areas of least environmental impact;
 - ii. An erosion and sediment control plan (Section 9.1) be submitted for approval;
 - iii. A site restoration plan be submitted for approval;
 - iv. The number of crossings be kept to a minimum;
 - v. Crossings should be perpendicular to the *watercourse*;

- vi. Crossings, especially any culvert crossings, should not be placed where the stream meanders, and the crossing must be constructed such that low flow conditions are maintained within the crossing;
- vii. The *Authority* encourages that culverts be open-bottomed or embedded a minimum of 20% in order to maintain *fish* passage. Where closed-bottom culverts are used, natural substrate parent to the *watercourse* should be placed within the culvert, and the hydraulic capacity of these culverts must consider this requirement. All culvert installations must be appropriately sized such that flows will permit the passage of all *fish* species inhabiting the affected *watercourse*.
- viii. The *Authority* requires the use of crossing methods with the least impact on the *watercourse* and maintains the character of the stream bed and banks, where possible (e.g. spanning bridges/structures, open-bottom culverts); and
- ix. In rural/agricultural areas, low-level crossings may be considered to allow controlled cattle crossing between pasture lands only where necessary. Low-level crossings for farm or other machinery will not be supported. The permission of low-level crossings will be subject to provisions (i) through (viii) above.

2.2 Lake Ontario Shoreline

Areas that lie along the Lake Ontario shoreline, including Hamilton Harbour, may be subject to *flooding hazards*, *wave action* and *other water-related hazards*, *erosion hazards* or *dynamic beach hazards*. In considering *development* applications for lands located in such areas, it is important to consider and account for the landward limits of such hazards in order to mitigate, to the greatest extent possible, the potential effects of these hazards on property and human safety. By incorporating hazard limits into *development* considerations, the *Authority* is able to conserve and protect what are often fragile and sensitive ecosystems.

The Provincial Policy Statement recognizes unacceptable risks associated with such events, and has required municipalities to address hazard lands (which include flood and erosion prone lands along shoreline systems, and dynamic beach processes) in their Official Plan (*OP*) policies. Much of the responsibility for such areas has subsequently been delegated to the Conservation Authorities, who have the required technical and professional expertise for managing such lands.

Development within the Regulation limit of the *Authority's* jurisdiction is governed by the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (*HCA* Regulation 161/06 under Ontario Regulation 97/04).

The hazard limit of the *Great Lakes-St. Lawrence River System* is delineated by the Ontario Ministry of Natural Resources (*MNR*) standards and criteria and consists of *flooding hazards*, *erosion hazards*, and *dynamic beach hazards* along the shoreline. The *HCA* Regulation limit for this natural hazard is the furthest landward extent of the aggregate of the *flooding hazard* limit plus the *erosion hazard* limit plus the *dynamic beach hazard* plus 15 m inland.

2.2.1 Shoreline Hazard Limits

The following limits will apply in all instances unless it can be shown to the satisfaction of the *Authority* and through valid engineering studies (by a qualified professional), at the expense of the proponent, that other allowance limits will maintain the integrity of the feature in question. The need for greater hazard land limits may be demonstrated through the completion of these studies. The shoreline hazard limit is the furthest landward extent of the aggregate of the *flooding hazard* limit plus the *erosion hazard* limit plus the *dynamic beach hazard* limit.

2.2.1.1 Flooding Hazard Limits

Where *Authority* staff consider proposed *developments* and/or *site alterations* in or on the areas adjacent or close to the shoreline of Lake Ontario, *flooding hazard* land limits will apply (e.g. Figure 9).

- a. *Flooding hazards* are based on the combined influence of:
 - i. The *100 year flood level*;
 - ii. The extent of *wave action*;
 - iii. The extent of *other water-related hazards*; and
 - iv. The existence or absence of shoreline protection works.

- b. For the Lake Ontario shoreline, excluding Hamilton Harbour, the *flooding hazard* limit has been determined to be 78.5 m IGLD 1955 (International Great Lakes Datum). This elevation includes the *100 year flood level* (76.0 m IGLD) plus the *wave action* and *other water-related hazards* (2.5 m) [Great Lakes-St. Lawrence River System and Large Inland Lakes Technical Guides (MNR & Watershed Science Centre, 2001) and Lake Ontario Waterfront Study, Stoney Creek (F.J. Reinders and Assoc. and Conroy Dowson Planning Consultants Inc., March 1980)].
- c. For Hamilton Harbour shoreline, the *flooding hazard* limit has been determined to be 77.5 m IGLD 1955 which includes the *100 year flood level* (76.0 m IGLD) plus the *wave action* and *other water-related hazards* (1.5 m) [Great Lakes-St. Lawrence River System and Large Inland Lakes Technical Guides (MNR & Watershed Science Centre, 2001), Lake Ontario Waterfront Study, Stoney Creek (F.J. Reinders and Assoc. and Conroy Dowson Planning Consultants Inc., March 1980), and West Harbour Waterfront Recreation Master Plan: Phase 1 Technical Report (City of Hamilton, October 2006)].
- d. A valid engineering study, undertaken by a qualified coastal engineer and at the expense of the proponent, may be undertaken or may be required to be undertaken, in areas where the exact extent of the *flooding hazard* limit needs to be verified. The need for greater hazard land limits may be demonstrated through the completion of this study.

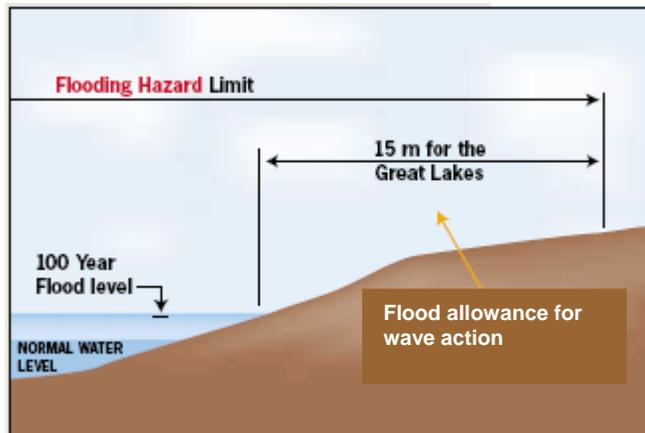


Figure 9: Flooding Hazard Limit for Lake Ontario

2.2.1.1.1 Wave Action

The Ministry of Natural Resources discuss *wave action* in Understanding Natural Hazards: Introductory Guide (2001). The following is taken from that guide.

Along shorelines subject to *wave action*, winds can drive water farther inland, beyond the *100 year flood level* limit. Planning authorities must add the area covered by *wave uprush* to the area covered by the *100 year flood*.

Along irregular shorelines, or where there are docks, protection structures or other structures, planners also have to take into account the effect of waves hitting vertical surfaces and sending spray inland. They also have to calculate the area affected when particularly strong waves overtop breakwalls, bluffs or other shoreline structures that act as barriers.

Planning authorities also have to take into account other water-related factors that can magnify flood destruction. They include these and other influences: ship generated waves, ice piling, and ice jamming.

In some areas, *wave uprush* may overtop banks or protection works and the water may collect, or pond, beyond the *100 year flood level*, thereby causing a long-term *flooding hazard*. Given the variety in protection works and naturally occurring shoreline banks that could contribute to ponding, no one suggested approach is useful. In this situation, planning authorities should undertake studies to determine the flood allowance for *wave uprush* and *other water-related hazards*.

All proposals for *development* along the Lake Ontario shoreline shall be subject to an allowance for *wave action* and *other water-related hazards*.

2. 2. 1. 2 Erosion Hazard Limits

Where *Authority* staff consider *development* proposals and/or *site alterations* in or on the areas adjacent or close to the Lake Ontario shoreline the *erosion hazard* limit shall be applicable (e.g. Figure 10).

- a. *Erosion hazards* are based on a combined influence of:
 - i. *Stable slope allowance* of 3(H):1(V);
 - ii. A 30 m *toe erosion allowance* (measured from *stable slope allowance*); and
 - iii. The existence or absence of shoreline protection works.
- b. A valid engineering study, undertaken by a qualified coastal engineer and at the expense of the proponent, may be undertaken or may be required to be undertaken, in areas where the exact extent of the *erosion hazard* limit needs to be verified. The need for greater hazard land limits may be demonstrated through the completion of this study.

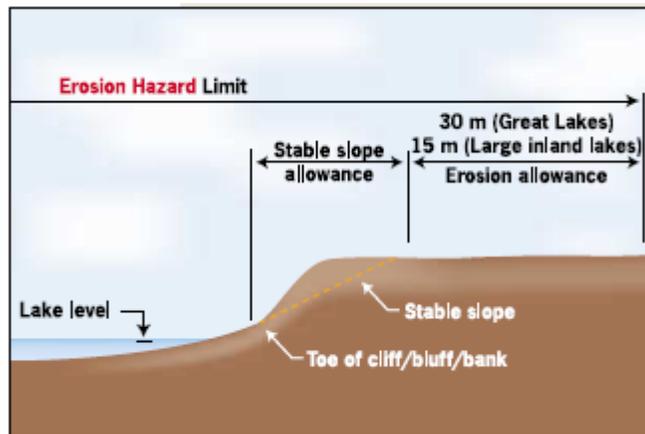


Figure 10: Erosion Hazard Limit for Lake Ontario

2. 2. 1. 3 Dynamic Beach Hazard Limits

To define a dynamic beach, the first step is to know the location of the *flooding hazard* limit. In dynamic beach areas, elevations can change quite dramatically from season to season and year to year due to build up and erosion of sand, cobbles, and other beach deposits. When elevations change, so does the location of the *flooding hazard* limit. This is an especially important consideration, because in times of low lake levels, the near shore areas that have been submerged under normal or high lake levels are now exposed, subjected to accretion and erosion processes. It may seem that the landward extent of the dynamic beach has changed, thereby introducing potential for *development* or expansion of existing *development*. Historic information about the farthest landward extent of flooding will be an important consideration for good long-term management of *dynamic beach hazards* (MNR, 2001).

Where *Authority* staff consider that proposed *developments* might impact on a dynamic beach system, the following *dynamic beach hazard* limit shall apply (Figure 11).

- a. The *dynamic beach hazard* limit is determined by:
 - i. The *flooding hazard* limit (*100 year flood level* plus an allowance for *wave action* and *other water-related hazards*); plus
 - ii. A 30 m *dynamic beach allowance*.
- b. A valid engineering study, undertaken by a qualified coastal engineer and at the expense of the proponent, may be undertaken or may be required to be undertaken, in areas where the exact extent of the *erosion hazard* limit needs to be verified. The need for greater hazard land limits may be demonstrated through the completion of this study.

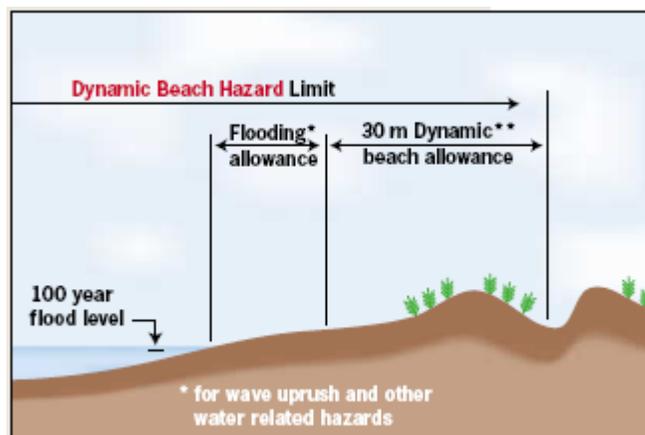


Figure 11: Dynamic Beach Hazard Limit for Lake Ontario
(* is not applicable)

2. 2. 2 Development

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and in, on or adjacent to the areas of shorelines must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. *Development* and/or *site alteration* will not be permitted in or on the areas within the *dynamic beach hazard*.
- b. The *Authority* will generally direct *development* to occur outside of *hazardous lands* adjacent to the Lake Ontario shoreline that are impacted by flooding and/or erosion, unless the following conditions are met:
 - i. The *ecological function* of areas adjacent or close to the shoreline have been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on natural features or their *ecological functions*;
 - ii. The hazards can be safely addressed, and the *development* and/or *site alteration* is carried out in accordance with *floodproofing* standards, *protection works standards*, and *access standards*;
 - iii. Vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;
 - iv. New hazards are not created and existing hazards are not aggravated; and
 - v. No adverse environmental impacts will result.
- c. *Development* and/or *site alteration* will not be permitted in or on *hazardous lands* where the use is:
 - i. An institutional use associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young during an emergency as a result of flooding, failure of *floodproofing* measures or protection works, or erosion;
 - ii. An essential emergency service such as that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of flooding, the failure of *floodproofing* measures and/or protection works, and/or erosion;
 - iii. Uses associated with the disposal, manufacture, treatment or storage of *hazardous substances*; or
 - iv. Any other use and/or *development* as deemed unsatisfactory by the *Authority*.
- d. *Development* and/or *site alteration* that will be susceptible to flood damage or is likely to increase flood damages to existing *developments/uses* will be prohibited.
- e. Any proposed *development* will be subject to appropriate *floodproofing* standards (Section 8.1, including its sub-sections), erosion and sediment control measures (Section 9.1), and/or vegetation plans (Section 10.1) and as determined to be necessary by the *Authority*.

- f. Wherever possible the municipality will be encouraged to obtain public access, shore strip dedication, easement, or right-of-way to the waterfront when multiple residential, commercial, industrial or recreational *development* occurs. These lands will provide linkages between and among *natural heritage features and areas, surface water features, ground water features and hydrologic functions*, and aid in maintaining the diversity and connectivity of natural features in an area and the long-term *ecological functions* and biodiversity of these natural systems. *Authority* staff will encourage the union of these sections of open space so as to form an almost continuous public shore.
- g. The *Authority* will encourage shoreline protection works that incorporate an ecosystem approach and natural shoreline processes. Shoreline protection works must meet the requirements of Section 2.2.2.1.
- h. Interior renovations to any *building* or structure that do not alter the use or potential use, do not increase the size, and do not increase the number of *dwelling units* of that *building* or structure will only require a letter of permission from the *Authority* pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04.
- i. *Development* and/or *site alteration* that is within the Regulation limit but outside of hazard limits generally will only require a letter of permission from the *Authority* pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04.

2. 2. 2. 1 Shoreline Protection Works

- a. Where shoreline protection works are proposed the applicant must meet the following requirements:
 - i. The purpose of the proposed works must be clearly defined;
 - ii. Shoreline works must be designed for the *100 year flood level, wave uprush*, and according to accepted scientific coastal engineering principles, where viable;
 - iii. The works must be designed and/or approved by a professional engineer with experience and qualifications in coastal engineering;
 - iv. Slope stability must be assessed by a professional engineer with experience and qualifications in coastal/geotechnical engineering;
 - v. The ownership of land, where the protection works are proposed, must be clearly established by the applicant;
 - vi. The design and installation of protection works must allow for access to and along the protection works for appropriate equipment and machinery for regular maintenance purposes and/or to repair the protection works should failure occur;
 - vii. The works will not aggravate existing hazards and/or create new hazards at updrift/downdrift properties;
 - viii. In areas of existing *development*, protection works should be coordinated with adjacent properties, where possible; and
 - ix. The *Authority* requires that the protection works incorporate a minimum *erosion access allowance* of 6 m, where possible, and that the *erosion access allowance* permit access from a municipal roadway to and along the shoreline protection works for regular maintenance purposes and/or to repair the protection works, where possible. Side yard access allowances may be shared between adjacent landowners provided that the shared easement is registered on title.

- b. The *Authority* will generally not support shoreline protection works that:
 - i. Do not consider natural coastal processes;
 - ii. Are not effective against long-term erosion;
 - iii. Do not preserve cobble/shingle beaches;
 - iv. Do not protect/regenerate aquatic and terrestrial habitat;
 - v. Encroach on *fish habitat* (in accordance with the *Authority's* agreement with Fisheries and Oceans Canada – *DFO*); and
 - vi. Negatively impact neighbouring shorelines.

In addition, determination of a stable slope (where required) shall be at the loss of the proponent's land, not *fish habitat*. If *fish habitat* loss occurs, compensation for the loss of habitat may be required under the direction of a Fisheries Act authorization.

- c. The *Authority* will notify and encourage shoreline property owners with existing protection works on their properties of the importance of regular maintenance of these structures to ensure long-term protection.
- d. Where shoreline protection works exist, the *Authority* may request that the integrity of that protection works be assessed by a qualified coastal engineer, at the expense of the proponent, and any recommendations for improvement be incorporated into the *development* proposal.
- e. Groynes generally will not be permitted within *hazardous lands* along the Lake Ontario shoreline.
- f. The *MNR* will be consulted for all shoreline works to determine if there are Crown interests and if any permits are required.

2.2.2.2 Additions and Replacement Structures

- a. *Additions* to structures existing within the shoreline hazard limits will not be permitted, unless the proposed *addition* meets Policy 2.2.2 (b) and Policy 2.2.2.1 (a). Additionally, adequate side and rear yard access for regular maintenance purposes and/or to repair the protection works is required.
- b. *Additions* may be permitted on existing structures outside of the shoreline hazard limits, but within the regulated area.
- c. The viability of locating *replacement structures* or *additions* on a portion of the property where the shoreline hazards are the least significant must be examined in the case of all proposals and applied wherever possible. *Replacement structures* can only be rebuilt within the shoreline hazard limits if the structure is adequately protected from the shoreline hazards through the installation of shoreline protection works as per Section 2.2.2.1.

2.2.2.3 Accessory/Minor Structures

- a. Minor or *accessory structures* will not be permitted within shoreline hazard limits, unless that structure is adequately protected from the shoreline hazards.

- b. *Accessory structures* less than 10 m² (108 sq. ft.) will not require a permit pursuant to *HCA Regulation 161/06* under Ontario Regulation 97/04. *Accessory structures* greater than or equal to 10 m² will require a permit. Any proposed *accessory structure* that is greater than or equal to 28 m² (300 sq. ft.) in size must meet the requirements of Section 2.2.2.

2. 2. 2. 4 Swimming Pools

- a. Swimming pools will not be permitted within the shoreline hazard limits, unless adequate shoreline protection works are installed as per Section 2.2.2.1.

2.3 Hazardous Sites

Areas that exhibit karstic features are classified as *hazardous sites*. Karsts are landforms that have a unique drainage network, with the majority of this network being located beneath the surface. Karst topography includes features such as *sinkpoints*, caves, *sinkholes*, fissures, and springs, and is found in areas along and above the Niagara Escarpment. These *hazardous sites* may be subject to erosional collapse, flooding, and water quality issues. In considering *development* applications for lands located in such areas it is important to consider and account for the landward limits of such hazards in order to mitigate, to the greatest extent possible, the potential effects of these hazards on property and human safety. Although the main regulatory issue is public safety and property damage, the *Authority* is also concerned with conserving and protecting the sensitive ecosystems that may be influenced by *development*.

The Provincial Policy Statement recognizes unacceptable risks associated with such areas, and has required municipalities to address *hazardous sites* in their Official Plan (*OP*) processes. Much of the responsibility for such areas has subsequently been delegated to the Conservation Authorities, who have the required technical and professional expertise for managing such lands.

Development within the Regulation limit of the *Authority's* jurisdiction is governed by the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (*HCA* Regulation 161/06 under Ontario Regulation 97/04).

Unlike *river and stream systems* or the Lake Ontario shoreline, *hazardous sites* do not have one formula for defining a hazardous area associated with karst formations; therefore the hazard must be defined on a site-specific basis.

In the *watershed* of the Hamilton Conservation Authority, there exists the Eramosa Karst *Area of Natural and Scientific Interest (ANSI)* as determined through a Ministry of Natural Resources investigation and report dated April 2003. This *ANSI* is located in the former City of Stoney Creek, is 195.7 hectares in size, and is considered a provincially *significant* earth science *ANSI*. It contains numerous diverse karstic features, including dry valleys, overflow sinks, sinking streams and a post glacial stream cave of significant length – the Nexus Cave.

The April 2003 provincial report provides guidance to decision-makers on how best to manage the Eramosa Karst and recommends certain technical studies that need to be undertaken as part of *development* within the karst and its three main sub-areas – Developed Area, Core Area, and Feeder Area.

Sixty (60) hectares of the Core and Buffer areas of the Eramosa Karst are in public ownership and will remain in public ownership in order to preserve its geomorphology and the hydrological function of the karst.

2.3.1 Development

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and within *hazardous sites* (identified or not) must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. *Development* within and adjacent to the Eramosa Karst *ANSI* shall be in conformity with the policies outlined in Section 2.3.1 of this document and shall also be in conformity with the recommendations contained within the April 2003 Ministry of Natural Resources report entitled, “Earth Science Inventory and Evaluation of the Eramosa Karst Areas of Natural and Scientific Interest”.
- b. The limit of the any *hazardous site* will be established in the field in conjunction with the *Authority* staff and a qualified professional. If proponent is other than the landowner, then permission must be received from landowner before staking limit of the *hazardous site*.
- c. *Development* and/or *site alteration* shall generally be directed to areas outside of *hazardous sites*.
- d. *Development* and/or *site alteration* shall not be permitted:
 - i. In or on the areas that are *hazardous sites*;
 - ii. In or on the areas that are adjacent to *hazardous sites*;
 - iii. Within a setback distance of 50 m from the boundary a *hazardous site*,

Unless in the opinion of the *Authority*, it has been demonstrated (through the submission of an *EIS*) that there will be no *negative impacts* on natural features or their *ecological functions*, including but not limited to, the control of flooding, erosion, *pollution*, or the *conservation of land*.

- e. *Development* and/or *site alteration* shall not be permitted to locate in *hazardous sites* where the use is, but not limited to:
 - i. An institutional use associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young during an emergency as a result of flooding, failure of *floodproofing* measures or protection works, or erosion;
 - ii. An essential emergency service as that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of flooding, the failure of *floodproofing* measures and/or protection works, and/or erosion;
 - iii. Uses associated with the disposal, manufacture, treatment or storage of *hazardous substances*; and
 - iv. Any other use and/or *development* as deemed unsatisfactory by the *Authority*.

- f. *Development* and/or *site alteration* may be permitted in those portions of *hazardous sites* where the effects and risk to public safety are minor so as to be managed or mitigated in accordance with provincial standards, as determined by the demonstration and achievement of all of the following:
 - i. *Development* and/or *site alteration* is carried out in accordance with *floodproofing standards*, *protection works standards*, and *access standards*;
 - ii. Vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;
 - iii. New hazards are not created and existing hazards are not aggravated; and
 - iv. No adverse environmental impacts will result.

- g. *Development* and/or *site alteration* will only be considered in or on areas that are *hazardous sites* if the following concerns are addressed to the satisfaction of the *Authority*:
 - i. Stormwater drainage;
 - ii. Utilities;
 - iii. Groundwater contamination;
 - iv. Flooding; and
 - v. Protection of unique features and dynamic processes that cause formation of karst.

- h. *Development* and/or *site alteration* shall not be permitted within a setback distance of 50 m from any karst feature, unless the uses are:
 - i. Fences, signs, roads and drainage structures that do not obstruct surface or groundwater flows;
 - ii. Trails and other passive recreation facilities, excluding *buildings*;
 - iii. Agricultural uses excluding *buildings* and structures;
 - iv. Properly designed and maintained stormwater management facilities;
 - v. Utility lines that do not obstruct surface or subsurface flows;
 - vi. Conservation uses excluding *buildings* or structures;
 - vii. Forestry uses excluding *buildings* or structures; and
 - viii. Any other relevant or appropriate use and/or *development* as deemed satisfactory by the *Authority*.

- i. Surface water run-off shall be controlled such that it could not interfere with the ecological and hydrogeological function of any *hazardous site* and:
 - i. Non-point source *pollution* load of nutrients and sediment shall not exceed the *pre-development* load; and
 - ii. Surface water run-off shall not directly enter a *sinkhole* or closed depression unless that is the natural drainage pattern. Drainage plans shall be designed to route surface water run-off through vegetative filters or other filtration measures before it enters such features.

- j. Site plans associated with *development* and/or *site alteration* shall provide for a stable vegetative cover on areas not occupied or covered by the *building* footprint, access, parking, loading or storage areas.

- k. Stormwater management ponds shall not be located within depressions or areas containing *sinkholes*. Stormwater management ponds shall be designed with impervious materials to prevent groundwater *pollution*.

- l. Utility installations shall be designed to prevent potential subsidence and/or karst-forming processes.

- m. Water wells shall be installed as far away as viable from a *sinkhole*. The *Authority* may require an assessment of the draw down impact of the well on the water table and may decline approval where the draw down has the potential to destabilize the karst topography.
- n. All permitted land uses which involve above ground storage tanks shall make provision for secondary containment.
- o. A monitoring program may be required by the *Authority* to measure the potential impacts of any *development*.
- p. The *Authority* will encourage local municipalities to zone lands to restrict land use activities which may have a *negative impact* on the groundwater resource.
- q. The *Authority* will encourage local municipalities to identify *hazardous sites* through municipal planning documents (e.g. Official Plans, Zoning By-Laws, neighbourhood plans, and sub-*watershed* plans) and to develop conservation policies for these areas and the lands adjacent to them.
- r. All land uses within *hazardous sites* shall be subject to a site plan, as deemed necessary by the *Authority*, to illustrate mitigation and remedial measures, proper siting and containment of storage facilities, lot grading and drainage, and site design plans.
- s. The *Authority* will encourage *Best Management Practices (BMPs)* for *development* and/or *site alteration* in *hazardous sites* or in those *watershed* areas that directly drain into the *hazardous sites*.

3 Natural Heritage

In addition to regulating *hazardous lands*, the *Authority* also manages *natural heritage features and areas* within its jurisdiction. These areas include *Environmentally Significant Areas (ESAs)*, habitat of *endangered and threatened species*, *fish habitat*, *woodlands* and forested areas, *significant wildlife habitat*, *Areas of Natural and Scientific Interest (ANSIs)*, and *wetlands*. These areas may be classed as locally, regionally, or Provincially *Significant*. These areas provide economic, social, and environmental benefits to our communities, by drawing tourists to natural areas, supporting human health and recreation, protecting water sources, and providing habitat for wildlife. The Conservation Authority plays an important role in protecting and maintaining such areas within the *watershed*, for both present and future generations.

When reviewing *development* proposals that may affect *natural heritage features or areas* and/or *ESAs*, *Authority* staff will refer to the Natural Heritage Reference Manual (*MNR*, 1999), and any amendments, updates, or revisions thereto. Where a discrepancy exists between this policy document and the *MNR* Reference Manual, the latter document will prevail. Each *development* proposal should utilize *Best Management Practices (BMPs)* and should provide all opportunities for protection and rehabilitation of natural features and their *ecological functions*. All reference to *wetlands* within Section 3.1.7 also includes *coastal wetlands*.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

3.1 General Policies

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and in, on or adjacent to *natural heritage features and areas* and/or *Environmentally Significant Areas (ESAs)* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The *Authority* will encourage that natural features and areas be protected for the long term.
- b. The *Authority* will encourage that the diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*.
- c. The *Authority* will encourage the protection of the ecological landscape surrounding unprotected groundwater recharge or discharge zones. Wherever possible, the *Authority* will work with the applicant to encourage conservation in *adjacent lands*. Appropriate techniques for such efforts will be determined on a case by case basis, and as appropriate to the feature in question.
- d. With the exception of those policies in Section 3.1.3, the *Authority* will require a minimum 10 metre *vegetation protective zone* for *natural heritage features*, where viable.

- e. Reduced setbacks from *natural heritage features* may be considered for brownfield *development* on a site by site basis.
- f. The *Authority* does not intend to limit the ability of existing agricultural uses from continuing.
- g. Interior renovations to any *building* or structure that do not alter the use or potential use, do not increase the size, and do not increase the number of *dwelling units* of that *building* or structure will only require a letter of permission from the *Authority* pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04.
- h. *Development* and/or *site alteration* that is within the Regulation limit but outside of hazard limits generally will only require a letter of permission from the *Authority* pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04.

3. 1. 1 Environmentally Significant Areas

- a. The limit of any *ESA* will be established in the field by *Authority* staff and municipal staff prior to the review of any *EIS*.
- b. *Development* and/or *site alteration* shall be directed away from all *ESAs* as defined in the Regional Municipality of Hamilton-Wentworth Official Plan (*OP*), dated April 1998, and/or the City of Hamilton *OP*, and any amendments, updates, or revisions thereto.
- c. When reviewing planning applications involving the creation of new lots (i.e. draft plan of subdivision, severance), *Authority* staff will work to ensure that no new lot lines extend into the *natural heritage feature* and its *vegetation protection zone* in order to maintain the natural area as one whole unit.
- d. *Authority* staff will bring updated information on *ESAs* to the City of Hamilton and/or the Township of Puslinch as it is developed, and encourage the incorporation of new designations into their Official Plan.
- e. Any *development* proposed for lands within, overlapping or adjacent to an *ESA* may require the completion of an *EIS* by the proponent, and each *EIS*:
 - i. Will be conducted using the guidelines set forth by the City of Hamilton or the Township of Puslinch (dependant on where the *development* is proposed); and
 - ii. Shall be required to examine the study area for the presence of an *Element Occurrence (EO)*. Should an *EO* be present the *MNR* Guelph District Office is to be notified.
- f. Wherever appropriate, the *Authority* will offer its assistance to the municipality and individual applicants in reviewing *EISs*.
- g. In instances where lands of an *ESA* are being used for agricultural purposes, the *Authority* will encourage the use of *Best Management Practices (BMPs)*.
- h. In instances of land acquisition the *Authority* will place a high priority on acquiring *ESAs*.

3. 1. 2 Endangered and Threatened Species

- a. *Development and/or site alteration* will not be permitted in the *significant* habitat of *threatened and endangered species*.
- b. *Development and/or site alteration* will not be permitted on lands adjacent to *significant* habitat of *threatened or endangered species* (within 50 m of the boundary of the habitat) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*.
- c. When reviewing planning applications, *Authority* staff will check proposals against the Species at Risk Act, Endangered Species Act, associated regulations, and internal database, as well as, the *Natural Areas Inventory* (Hamilton Naturalist Club, 2003) and any amendments, updates, or revisions thereto, in order to determine if any *endangered or threatened species* could be impacted by the proposed *development*.
- d. In the absence of *Authority* listings of *endangered and threatened species*, *Authority* staff shall consult:
 - i. The *MNR* list of Species at Risk in Ontario (<http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html>); and
 - ii. The Federal list of Species at Risk in Ontario (http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1).

3. 1. 3 Fish Habitat

- a. *Development and/or site alteration* will not be permitted in *fish habitat* except in accordance with *provincial and federal requirements*.
- b. *Development and/or site alteration* will not be permitted on lands adjacent to *fish habitat* (within 30 m of the boundary of the habitat) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*. In the case of *fish habitat*, *adjacent lands* should generally be measured from the bankfull width.

In instances where a valid study indicates the viability of implementing a reduction in the width of *adjacent lands*, these reductions will be required to comply with the appropriate *vegetation protective zone* widths for *Critical, Important and Marginal Habitats* [Policy 3.1.3 (d)], wherever appropriate.

- c. When reviewing applications that will cause a harmful alteration, destruction or disruption to *fish habitat (HADD)* the project shall be referred to the Fisheries and Oceans Canada (*DFO*) in accordance with the *HCA's* Level 2 agreement with this agency (see Appendix E for the full agreement).

- d. The *Authority* will require an undisturbed *vegetation protective zone* running consistently along both sides of all *watercourses*. A reduction in the *vegetation protective zone* will not be considered for *development* and/or *site alteration* proposals. Exceptions may be considered for *additions, replacement structures* and *accessory structures*, where locating *buildings* and/or structures outside of the *vegetation protective zone* is not viable. The *vegetation protective zone* is to be measured perpendicularly outward from each of the two edges of the bankfull width with the following provisions.

NOTE: *Authority* staff will use thermal regimes documented at the time these policies were approved by the Board of Directors. In all cases, the methods of Stoneman, C.L. and Jones, M.L. (1996) will be utilized to determine the thermal regime of a *watercourse*.

- i. A minimum 15 m *vegetation protective zone* for all *Important* (Type 2) and *Marginal* (Type 3) *Habitats* (30 m total);
- ii. A minimum 30 m *vegetation protective zone* for all *Critical* (Type 1) *Habitats* (60 m total),
 1. In the case of *Critical habitats*, the *Authority* may require that the *vegetation protective zone* be adjusted upwards based on the findings of a fisheries habitat assessment. Such assessments are to be completed at the expense of the proponent and by a qualified professional;
- iii. Greater *vegetation protective zones* may be required in some areas as a result of sensitive soil conditions (e.g. high permeability, shallow soil depths, steep slopes, or extensive organics, etc.) and/or in the habitat of *endangered* or *threatened species*;
- iv. The *vegetation protective zone* may be required to be enhanced as determined by the *Authority*
- v. The *vegetation protective zone* for a meandering stream shall be the greater of either the *meander belt allowance* or the required *vegetation protective zone* for *Critical, Important* or *Marginal Habitats*;
- vi. *Best Management Practices (BMPs)* should be used where the *vegetation protective zone* is interrupted to allow *watercourse* crossings, as permitted in Section. 2.1.3. An interruption should occur only where it is proven to be least intrusive; and
- viii. Trails and paths may be allowed in the *vegetation protective zone* provided that:
 1. The trail or path is located outside of *erosion hazard*, except for crossings;
 2. The trail or path should not come closer than 4 m to the edge of a *watercourse*, except for crossings, unless it has been demonstrated through the completion of an Environmental Impact Statement (*EIS*) that there will be no *negative impacts* on the natural features or on their *ecological functions*;
 3. The trail or path does not impede the natural function of *valleylands*;
 4. Permeable surfacing generally must be used for trail or path construction; and
 5. There is a compensating *vegetation protective zone* allowance added to the width of the *vegetation protective zone*.

3. 1. 4 Significant Woodlands and Forested Areas

- a. *Development* and/or *site alteration* will not be permitted in *significant woodlands* unless it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or their *ecological functions*.
- b. *Development* and/or *site alteration* will not be permitted on lands adjacent to *significant woodlands* (within 50 m of the boundary of the *woodland*) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*.

- c. In situations where a proposed *development* and/or *site alteration* is located in or adjacent to a potentially *significant woodland*, *Authority* staff will apply the criteria used by the municipality in order to determine if the policies regulating *development* in such areas are applicable.
- d. Where trees have been removed for the purposes of *development* and/or *site alteration*, the *Authority* may require compensatory replanting within a comparable habitat. At a minimum, this should be done at a 2:1 ratio using locally appropriate native species and shall be required to follow the guidelines established in Section 10.1 of this document.
- e. Wherever possible, the *Authority* will work to maintain existing tree cover or other stabilizing vegetation, particularly in sloped areas.
- f. Where *development* and/or *site alteration* proposals affect undesignated and/or unassessed *woodlands*, the *Authority* will work with the applicant to encourage conservation. Appropriate techniques for such efforts will be determined on a case by case basis, and as appropriate to the feature in question.
- g. Where appropriate, the *Authority* will encourage the municipality to include *woodlands* in park and other open space dedications.

3. 1. 5 Significant Wildlife Habitat

- a. *Development* and/or *site alteration* will not be permitted in *significant wildlife habitat* unless it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or their *ecological functions*.
- b. *Development* and/or *site alteration* will not be permitted on lands adjacent to *significant wildlife habitat* (within 50 m of the boundary of the habitat) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*.
- c. Where *development* and/or *site alteration* proposals affect unprotected *wildlife habitat*, the *Authority* will work with the applicant to encourage conservation and will promote the use of conservation management techniques. Such techniques will be determined on a case by case basis, and as appropriate to the wildlife in question.
- d. Wherever possible, the *Authority* will encourage the municipality to acquire lands through public dedication such that they contribute to the formation of wildlife corridors.

3. 1. 6 Areas of Natural and Scientific Interest

- a. The *Authority* will direct *development* and/or *site alteration* away from Provincially *Significant Areas of Natural and Scientific Interest (ANSIs)* unless it can be demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or the *ecological functions*.

- b. *Development* and/or *site alteration* will not be permitted on lands adjacent to Provincially Significant ANSIs (within 50 m of the boundary of the area) unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated through the submission of an *EIS* that there will be no *negative impacts* on the natural features or on their *ecological functions*.

3.1.7 Wetlands

- a. *Development, site alteration, and/or interference with wetlands* will generally not be permitted:
 - i. In or on the areas of Non-PSWs;
 - ii. Within the *adjacent lands* of PSWs (120 m); or
 - iii. Within the *adjacent lands* of Non-PSWs (30 m)

Unless the hydrological, hydrogeological, and *ecological function* of the subject lands and of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on natural features or their *ecological functions*, such proposals may require the completion of an *EIS*, and should utilize all opportunities for protection and rehabilitation of the *wetland* feature.

- b. Except as provided for in Policy 3.1.7 (h) (i), no *development, site alteration, and/or interference with wetlands* is permitted within a PSW.
- c. Except as provided for in Policy 3.1.7 (i), no *development, site alteration, and/or interference with wetlands* is permitted within 30 m of any *wetland*.
- d. The viability of locating the *development* proposal on a portion of the property outside of the 30 m *area of interference* of a PSW must be examined in all cases and applied wherever possible.
- e. The limit of any *wetland* will be established in the field by the *Authority* staff and municipal staff, with reference to provincial mapping.
- f. The *Authority* will encourage the local municipalities to continue to identify local and regional *wetlands* through municipal planning documents (e.g. Official Plans, Zoning By-Laws, neighbourhood plans, and sub-*watershed* plans) and to develop conservation policies for these areas and the lands adjacent to them.
- g. The *Authority* will recommend that municipalities seek the dedication of the *wetland* to a public agency to protect the *wetland* and its features when applications for plan of subdivision are reviewed.

h. Within Any Wetland

- i. *Development, site alteration, and/or interference with wetlands* will not be permitted in or on the areas of Provincially Significant Wetlands (PSWs). This includes *additions, accessory structures, decks, and/or pools*;
 1. An exception may be considered for *replacement structures* where Policy 3.1.7 (d) has been examined and *floodproofing* concerns, as outlined in Section 8.1 (and its sub-policies), have been addressed;
- ii. The *Authority* will not support the *development* of roads, or driveways, through any *wetland* in order to access *building* sites. As a general principle, the *Authority* will refuse applications that would necessitate such an access road, or driveway, being built; and
- iii. *Ponds* will not be permitted within any *wetland*.

i. Within 30 m of Any Wetland – Permit

These policies regulate *development, site alteration, and/or interference with wetlands* on lands located within 30 m of PSWs and within 30 m of Non-PSWs, and will require a formal permit under HCA Regulation 161/06 under Ontario Regulation 97/04, and may require the completion of an *EIS*. Where *buildings* and structures already exist within 30 m of any *wetland*, the following provisions will apply:

- i. No new septic systems permitted;
- ii. No swimming pools (above ground and in-ground) permitted;
- iii. Existing septic systems may be upgraded and/or replaced provided there are no viable locations available outside of the 30 m *area of interference* and it does not encroach any closer to the *wetland* than the existing system;
- iv. A *replacement structure / addition* may be permitted to encroach closer to the *wetland* than the existing *development* at its closest point; and
- v. An *accessory structure* may be permitted to encroach closer to the *wetland* than the existing *development* at its closest point.

j. Between 30 and 120 m of PSW – Letter of Permission

Provided major *fill* placement (>0.3 m in elevation) is not associated with the following *development, site alteration, and/or interference with wetlands*, the following may be permitted and will only require a letter of permission if proposed within 30 to 120 m from the limit of a PSW, with the provision that where *Authority* staff require an *EIS* then a permit will be required pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04:

- i. A single family residential dwelling equal to or less than 200 m² (2153 ft²) in size;
- ii. Swimming pools, decks, *accessory structures* to a single family residential dwelling that combined with the dwelling are equal to or less than 300 m² (3229 ft²) in size;
- iii. *Replacement structures*;
- iv. Minor *additions* to existing residential *buildings/structures* provided the *addition* does not encroach closer to the *wetland* than the existing structure and the *addition* combined with the dwelling are equal to or less than 300 m² (3229 ft²) in size;

- v. Residential septic systems with the provision that a qualified professional(s) conducts percolation tests and soil description, a site inspection, a licensed septic system installer installs the system, and a mound system or a raised filter bed is utilized. The system must be located as far from the *wetland* as possible;
- vi. Existing septic systems may be replaced provided they do not encroach any closer to the *wetland* than the existing system, and they meet the requirements of (iv) above;
- vii. Agricultural *buildings*/structures provided *BMPs* are implemented and, where applicable, proper manure storage facilities are demonstrated as part of the proposal and the *building* is equal to or less than 500 m² (5382 ft²) in size;
- viii. Minor *additions* to existing agricultural *buildings*/structures provided that combined with the existing *building* are equal to or less than 700 m² (7535 ft²) in size; and
- ix. Landscaping and minor grading.

Best efforts must be made to locate the above uses as far from the *wetland* as possible in order to minimize the potential impacts to the hydrological, hydrogeological, and/or *ecological functions*. Cumulative impacts will be considered.

k. Between 30 and 120 metres – Permit

Any *development*, *site alteration*, and/or *interference with wetlands*, other than those outlined in Policy 3.1.7 (j), proposed within 30 to 120 m of a *PSW*, will require a formal permit under *HCA* Regulation 161/06 under Ontario Regulation 97/04, and may need to be supported by an *EIS*, prepared by a qualified professional, that identifies whether the proposed *development*, *site alteration*, and/or *interference with wetlands* would cause a negative hydrological, hydrogeological, and/or *ecological* impact on the *wetland* features/functions.

4 Development Adjacent to Authority Land Holdings

The Hamilton Conservation Authority owns, leases, or manages approximately 4,000 hectares of land. This land base is managed to protect *flood plain*, *wetland*, and headwater areas, *wildlife habitat*, flora and fauna and to provide recreational opportunities. It is important to ensure that proposed land uses adjacent to *Authority* Land Holdings do not have a *negative impact* on the existing or proposed uses of the *Authority's* property.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

4.1 General Policies

Any *development* and/or *site alteration* adjacent to *Authority* Land Holdings must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*. Each *development* proposal should utilize *Best Management Practices (BMPs)* and should provide all opportunities for protection and rehabilitation of natural features and their *ecological functions*.

- a. Where appropriate, existing *vegetation protective zone* between adjacent properties and *Authority* Land Holdings shall be maintained and enhanced in conjunction with adjacent *development*.
- b. In rural areas, *Authority* staff shall work to encourage adjacent landowners to establish a 5 m *vegetation protective zone* (50/50 split) comprised of native and locally appropriate plant and tree species on the boundary of the subject properties.
- c. In urban areas, *Authority* staff shall request that a 1.8 m high continuous chain link fence be established on the boundary of the subject property adjacent to *Authority* lands. In areas where the construction of a fence will result in the removal or destruction of excessive vegetation, alternate property boundary demarcation may be considered. Where appropriate, this should be included as a condition for draft plans of subdivision, consent or site plan.
- d. Open space and recreational uses that will complement the existing or proposed use of a Conservation Area of other *Authority* Land Holding are to be encouraged.
- e. In order to prevent dumping and encroachment onto *Authority* lands, gates will not be permitted within fences that are adjacent to *Authority* lands.

5 Fill Placement and Grade Modifications

Under the Conservation Authorities Act, the Hamilton Conservation Authority is responsible for controlling and monitoring the placement or dumping of *fill* and *site alteration* within regulated areas. Such activities require careful monitoring due to their potentially harmful impacts on flooding, flood storage capacity, erosion, and sedimentation.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

The following policies will be used when reviewing *fill* placement, grade modifications, and dredging proposals within the jurisdiction of the *Authority*.

5.1 General Policies

Any *fill* placement or site grading within the jurisdiction of the *Authority* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. *Fill* placement and grade modifications will be evaluated on an individual basis, having consideration for the following:
 - i. No *negative impacts* on the natural features or on the *ecological functions*, including *fish* and wildlife requirements as set out by other federal, provincial or municipal legislation/plans/technical guidelines and a *net environmental benefit* is achieved;
 - ii. Maintenance of the natural topography of the *watercourse* system, flood conveyance and flood storage;
 - iii. No adverse impacts upstream and/or downstream of the proposed works in respect to fluvial geomorphological processes, storage capacity of the *flood plain*, *flood plain* elevations, flood frequency, erosion rates or erosion frequency along either side of the *watercourse*;
 - iv. No adverse impacts on *ground water features* and recharge/discharge;
 - v. Geotechnical issues are addressed to the satisfaction of the *Authority*; and
 - vi. Adequate erosion and sediment control measures are incorporated and utilized during the construction phase.
- b. *Fill* material shall not be permitted within hazard limits, with the following exceptions:
 - i. Where *fill* is required in order to ensure the long-term stability of a slope;
 - ii. As part of cut and *fill* operations, where it can be shown that there will be no hydraulic impacts; and
 - iii. Within the Dundas *Special Policy Areas*, as regulated by the appropriate policies.
- c. Where appropriate, the *Authority* may require the completion of an erosion and sediment control plan. Such plans shall be required to conform to those guidelines detailed in Section 9.1 of this document.

- d. The *fill* material must be:
 - i. Clean and inert;
 - ii. Placed so as not to be susceptible to washout or scour under the action of floodwater;
 - iii. Placed so as to ensure the long term stability of slopes in accordance with sound engineering standards; and
 - iv. Placed outside of any *wetlands*.

6 Pond Construction

When constructed correctly, a *pond* can provide valuable habitat for wildlife and *fish*, recreational opportunities and a reliable source of water for livestock, irrigation or fire protection. When poorly planned, however, *ponds* can create changes in water levels and temperatures, increase erosion and sedimentation hazards, reduce water quality, and negatively impact *fish habitat* through the loss of migration routes and blockage of spawning grounds.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

The following policies are to be applied to all *ponds* with the exception of those that are associated with stormwater management facilities. Stormwater management ponds shall be subject to those policies provided in Section 12.1.

6.1 General Policies

Any *pond* construction within the jurisdiction of the *Authority* and must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The *Authority* will not support the establishment of in-stream *ponds*.
- b. The *Authority* will require that all *ponds* maintain a minimum setback of 15 m from all *watercourses*.
- c. *Ponds* will not be permitted within:
 - i. Hazard limits;
 - ii. The *floodway* of a *river or stream system*;
 - iii. Provincially *Significant* or other regionally or locally recognized *wetlands*; or
 - iv. *Environmentally Significant Areas*.
- d. If deemed necessary, the *Authority* may require the proponent to complete an Environmental Impact Statement (*EIS*) at their own expense.
- e. *Ponds* may be approved on *adjacent lands* to those areas noted in Policy 6.1 (c), such proposals are subject to the following:
 - i. Groundwater sources for nearby *watercourses* and all types of *wetlands* are not negatively impacted. Such determinations are to be made by a professional geoscientist or engineer;
 - ii. Where applicable, *flooding hazards* upstream and downstream are not significantly altered;
 - iii. There will be no detrimental effects on the features or functions of *ESAs*, *natural heritage features or areas*, or any *wetlands*;
 - iv. All *fill* materials excavated from the site of the *pond* are removed from the *flood plain*; and
 - v. Where applicable, it must be shown that there will be no *negative impacts* on nearby *watercourses*, particularly with regards to water quality and thermal *pollution*.

- f. Prior to issuing a permit, the *Authority* will require a site plan detailing erosion and sediment controls (Section 9.1) to be applied during and after construction. These measures must be in place prior to the commencement of construction, and are to be maintained until all disturbed soils have re-vegetated.

- g. The *Authority* will require that all soil surfaces exposed during the construction process be restored and re-vegetated following the completion of grading in order to guard against sedimentation and erosion. Landowners shall be encouraged to re-vegetate using species that are native to the area. If deemed necessary by *Authority* staff, the proponent will be required to submit a vegetation plan. Such plans shall follow the guidelines established in Section 10.1 of this document.

7 Minor Development Exemptions

This section outlines minor *development* that are exempt from requiring a formal permit pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04, subject to the proposed *development* maintaining appropriate setbacks and meeting the requirements of the following policies.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

7.1 General Policies

Minor *development* exemptions must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*. Each *development* proposal should utilize *Best Management Practices (BMPs)* and should provide all opportunities for protection and rehabilitation of natural features and their *ecological functions*.

The following *development* proposals are exempt from requiring a formal permit pursuant to HCA Regulation 161/06 under Ontario Regulation 97/04:

- a. *Accessory Structures*
 - i. *Accessory structures* less than 10 m² (108 sq. ft.), but the *Authority* requires a minimum 6 m *erosion access allowance*, where possible, from the *top of slope* or the *toe of slope* and/or a 15 m setback from the channel bank of any *watercourse* is maintained.
- b. *Fencing*
 - i. All fencing projects.
- c. *Site Alteration*
 - i. A one-time placement of *fill* less than or equal to 10 m³ in volume within or adjacent to a valley or within the *Regulatory Flood plain*, provided that there is a minimum 6 m *erosion access allowance*, where possible, from the *top of slope* or the *toe of slope* and/or a 15 m setback from the channel bank of any *watercourse* is maintained, the filled and re-graded area is immediately stabilized, and that the *fill* does not have an effect on *Regulatory Flood* elevations as deemed by the *Authority*;
 - ii. Provided (i) above is met, top dressing of existing lawns or gardens with organic material such as topsoil (50 mm depth); and
 - iii. Resurfacing of existing driveways and parking lots, where the final grade is generally the same as the existing grade.

8 Floodproofing Standards

The term *floodproofing* is used to describe the combination of measures that are incorporated into the basic design and/or construction or alteration of individual *buildings*, structures or properties so as to reduce the impacts of flood related damages. *Floodproofing* alleviates damages to *buildings* and structures and therefore reduces the risk to public safety and property. The purpose of these planning guidelines is to provide direction when *floodproofing* is required, therefore the following policies will apply to all proposed *developments*, where applicable.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

8.1 General Policies

Any *development* within the jurisdiction of the *Authority* and within any and all *flooding hazards* (i.e. rivers and streams, shorelines, karst areas) must be in accordance with the following policies and guidelines, where applicable, and must be to the satisfaction of the *Authority*.

- a. *Floodproofing* is dependent on the following characteristics of a flood. These criteria will be taken into consideration when deciding *floodproofing* on a site-specific basis:
 - i. The combination of depth and velocity of the flood waters;
 - ii. The duration of the flood;
 - iii. The rate of rise and fall of the flood waters; and
 - iv. The type of flood warning system in place.
- b. All mechanical and electrical systems must be designed and installed so that the heating, lighting, ventilation, air conditioning and other systems are not vulnerable to flood damage during the flood standard. Where flooding could interrupt key power supplies, it may be necessary to provide stand-by or backup systems, with power and controls located above the level of the flood standard.

8.1.1 Safe Access

- a. Safe ingress and egress for pedestrians and vehicles must be such that the depth is less than 0.3 m (1 ft) and the velocity is no greater than 1.7 m/s (5.5 ft/s).

8.1.2 Additions and Replacement Structures

- a. *Replacement* residential/habitable structures will require *dry passive floodproofing* to the level of the *Regulatory Flood* plus a freeboard of 0.3 m (1 ft) wherever possible.
- b. *Minor additions* to an existing *building* are the only *developments* that shall be permitted to be *floodproofed* to less than the *Regulatory Flood* level. In all instances they should incorporate *floodproofing* measures to the extent and level possible, based on site-specific conditions. At a minimum, the *addition* should not be more flood vulnerable than the existing structure, in that no openings on the *addition* are to be below the elevation of existing openings.

8. 1. 3 Dry Floodproofing

- a. The use of *dry active floodproofing* measures will only be accepted in instances where it is not possible and/or practical to utilize *dry passive* approaches.
- b. When reviewing *dry passive floodproofing* designs, *Authority* staff shall ensure that adequate use of *fill*, columns or design modifications are used in order to ensure that openings in *buildings* or structures will be elevated above the level of the *Regulatory Flood*, plus a freeboard of 0.3 m (1 foot), where possible.
- c. Where *Authority* staff determine that it is not viable or practical to use *dry passive floodproofing* measures, *dry active* measures may be explored and utilized. In reviewing such approaches, staff shall ensure that the use of water tight doors, seals, berms/floodwalls or other similar measures to prevent water from entering openings below the *Regulatory Flood* level are adequately and appropriately incorporated into the design.
- d. All *dry floodproofing* designs must be prepared and certified by a qualified engineer.
- e. Wherever possible, *dry floodproofing* measures should be passive rather than active.

8. 1. 4 Wet Floodproofing

- a. *Wet floodproofing* shall only be considered for structures that are non-residential or non-habitable.
- b. *Wet floodproofing* shall be to the level of the *Regulatory Flood* plus a freeboard of 0.3 m. (1 foot), where possible.
- c. When reviewing *wet floodproofing* measures *Authority* staff shall ensure that appropriate use is made of materials, methods and design measures such that structural integrity may be maintained in the event of a flood, and that water damage will be minimized to the greatest extent possible.
- d. When reviewing *wet floodproofing* measures *Authority* staff shall ensure that designs have included two openings below the level of the *Regulatory Flood* in order that water is able to freely enter and exit the structure.
- e. If deemed necessary, the *Authority* may require that *wet floodproofing* designs be prepared and submitted by a qualified engineer.

9 Erosion and Sediment Control Standards

Although erosion is a naturally occurring process the impacts of construction activities can cause soil erosion amounts and rates to increase by up to 40,000 times those of undeveloped lands or forests. Erosion and the resulting deposition of sediments into natural *watercourses* can cause degradation in water quality, the destruction of *fish habitat*, increased *flooding hazards*, and reduced navigational capacities in waterways. During a typical construction season, it is estimated that between 2.5 to 5 dump truck loads of soil erode off every hectare of an unprotected site. Once soil begins to move it becomes far more difficult to control; therefore, erosion control at the source is far more effective than end-of-pipe measures.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

The intention of these policies and guidelines is to reduce erosion and to minimize the amount of sediment moving off of construction sites, thereby preventing degradation of the environment.

9.1 General Policies

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* and that requires erosion and sediment control measures must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The *Authority* will require that all *development* activities utilize appropriate erosion and sediment control measures as part of the construction process.
- b. Where deemed necessary, the *Authority* will require the preparation and implementation of an Erosion and Sediment Control Plan that has been prepared by a qualified professional.
- c. All landowners will be responsible for implementing, monitoring and maintaining all erosion/sedimentation control measures until the establishment of a permanent vegetative cover. This will include field inspection of all measures before and after a storm event, and follow-up with any required maintenance.

9.2 Erosion and Sediment Control Plans

- a. All Erosion and Sediment Control Plans shall use the guidelines detailed in the Erosion and Sediment Control Guideline for Urban Construction (December 2006), or any amendments, updates, or revisions thereto. The requirements of these plans shall be determined based on:
 - i. The type of *development* proposed; and
 - ii. What is deemed to be necessary by the *Authority*,

A. Part One: Erosion and Sediment Control Plan **Document/Report** including:

- Project descriptions
- Condition of existing site
- Condition of existing receiving water
- Adjacent areas and features
- Soils
- Critical areas
- Permanent stabilization
- Record keeping procedure
- Stockpile details
- Design details of erosion and sediment control measures
- Emergency contact
- Stamped and signed by a Professional Engineer

B. Part Two: Erosion and Sediment Control Plan **Drawing** including:

- General items
- Site boundary limits
- Existing contours
- Proposed contours/elevation
- Existing vegetation
- Water resources location(s)
- Critical areas
- Existing and proposed drainage systems
- Stormwater management systems
- Stormwater discharge locations
- Limits of clearing and grading
- *Regulatory Flood* level and *HCA* regulated areas
- Access road
- Internal haul road
- Stockpile and berm data
- Construction phasing and scheduling
- Erosion and sediment control measures locations and details
- Inspection and maintenance
- Stamped and signed by a Professional Engineer

10 Vegetation Plans

The early re-vegetation of areas that have been denuded during *development* is an important component of efforts to control erosion and sedimentation. Planting will also provide benefits in terms of water quality, *wildlife habitat*, nutrient and pesticide movement, and the protection of biodiversity.

In instances where the Conservation Authority requires the implementation of re-vegetation strategies, (most notably along *watercourses*, lands adjacent to or within *Environmentally Significant Areas* and regulated areas) it may also request that a vegetation plan be submitted with the application. In some instances it may be appropriate to have such plans submitted in conjunction with erosion and sediment control plans.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

10.1 General Policies

Any *development* and/or *site alteration* within the jurisdiction of the *Authority* that requires a vegetation plan must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*.

- a. The vegetation plan shall include the following;
 - i. An inventory of existing vegetation, noting species composition and their general condition;
 - ii. The location of the proposed *development* and/or *site alteration* and anticipated disturbances;
 - iii. Areas that are to be retained in their natural condition;
 - iv. Drainage patterns of the land (including swales, run-off areas, *ponds*, streams, and *wetland* areas);
 - v. Location and type of measures that are to be utilized during and after construction so as to control erosion and protect environmental features; and
 - vi. Areas that will be replanted, noting the types, quantities and variety of native species that will be used.
- b. All plantings should use native, non-invasive and locally appropriate species.
- c. Topsoil should be present at depths of 0.45 to 1.0 m above the permanent water level. This may be achieved either through raised beds or by spreading the material evenly across the area to be planted.
- d. Planting should take place within seven days of the completion of final grading for the area in question unless it can be demonstrated that doing so will significantly reduce the likelihood of those plants surviving. In such instances proponents may be required to create a temporary cover for the area through seeding or other measures, until permanent plantings can be made.

- e. Proponents shall be encouraged to establish vegetation corridors where possible.
- f. Proponents shall be encouraged to consider genetic diversity and the incorporation of a variety of native, locally appropriate plant species into their vegetation plans in order to promote biodiversity. *Authority* staff may be required for consultation in order to provide information on suitable species.
- g. Any removal, protection and/or replanting works that are engaged in must be performed to the satisfaction of the *Authority*.
- h. Wherever applicable, vegetation plans should address all measures required by municipal tree preservation policies.

11 Source Water Protection

Source water is untreated water from streams, lakes, rivers, or underground aquifers used to supply private wells and public drinking water. By protecting source water, Conservation Authorities are providing economic, social, and environmental benefits to our communities.

As deemed necessary by the *Authority*, the following policies may be applicable to all quality and quantity issues submitted with planning applications with respect to water within the *Authority's* jurisdiction. Please note that *HCA* Regulation 161/06 under Ontario Regulation 97/04 does not yet allow for the regulation of activities in or near source water protection areas. However, *Authority* staff can work with the local municipalities in response to *development* applications under the Planning Act, to protect these important areas.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

11.1 General Policies

The following policies and guidelines will be used by *Authority* staff in the review of *development* applications.

- a. *Authority* staff will notify the Ministry of the Environment immediately when an imminent risk or threat to drinking water is evident (Figure 12). *Authority* staff will refer to Watershed-Based Source Protection Planning, Science-Based Decision-Making for Protecting Ontario's Drinking Water Resources: A Threats Assessment Framework (OMOE, Nov 2004)

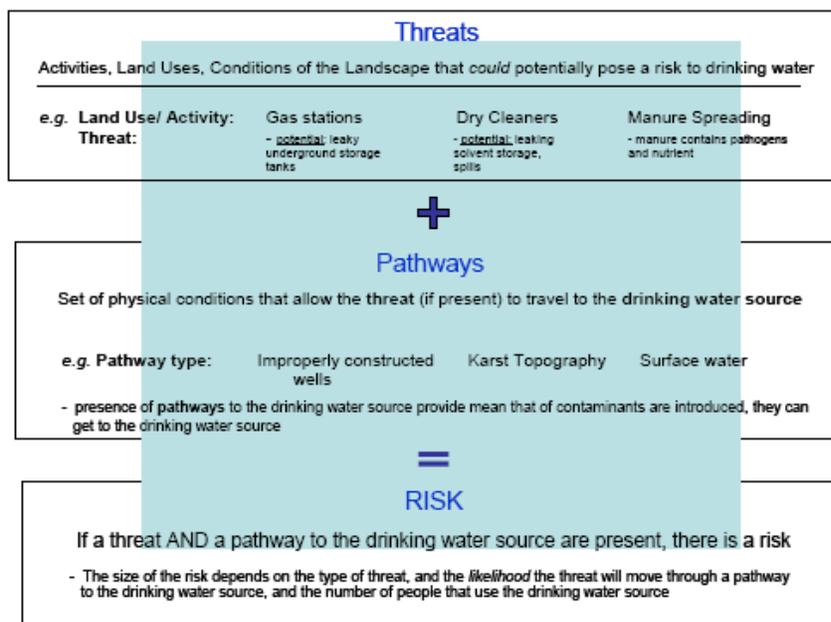


Figure 12: Concepts of Threat, Pathways and Risk to drinking water sources (courtesy of OMOE, 2004)

- b. The *Authority* shall protect, improve or restore the *quality and quantity of water* by:
 - i. Using the *watershed* as the ecologically meaningful scale for planning
 - ii. Minimizing potential *negative impacts*, including cross-jurisdictional and cross-*watershed* impacts;
 - iii. Identifying *surface water features, ground water features, hydrologic functions* and *natural heritage features and areas* which are necessary for the ecological and hydrological integrity for the *watershed*;
 - iv. Implementing necessary restrictions on *development* and *site alteration* to:
 - 1. Protect all municipal drinking water supplies and *designated vulnerable areas*; and
 - 2. Protect, improve or restore *vulnerable* surface and ground water, *sensitive surface water features* and *sensitive ground water features*, and their *hydrologic functions*;
 - v. Maintaining linkages and related functions among *surface water features, ground water features, hydrologic functions*, and *natural heritage features and areas*;
 - vi. Promoting efficient and sustainable use of water resources, including practices for water conservation and sustaining water quality; and
 - vii. Ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

- c. *Development* and/or *site alteration* shall be restricted in or near *sensitive surface water features* and *sensitive ground water features* such that these features and their related *hydrologic functions* will be protected, improved or restored.
 - i. Mitigative measures and/or alternative *development* approaches may be required in order to protect, improve or restore *sensitive surface water features, sensitive ground water features*, and their *hydrologic functions*.

12 Stormwater Management

Stormwater runoff acts as a link between the change in land uses and the impacts on receiving streams and lakes. Changes in the landscape, stream geomorphology and the hydraulic regime has led to problems such as flooding, stream-bank erosion, increased pollutant loadings, temperature effects, base-flow reduction, habitat changes and groundwater impacts. Because of this, it is important that the *Authority* ensures that stringent stormwater management (*SWM*) practices are used in all applicable circumstances in order that the impacts of stormwater runoff are mitigated to the greatest extent possible.

The policies and guidelines contained within this document should not be read in isolation of one another. Rather, they should be read concurrently and in their entirety and the appropriate range of policies and guidelines should be applied to each situation. In the case where more than one policy applies to a situation, the more restrictive policy will apply.

In the Hamilton Conservation Authority *watershed*, the following stormwater quality controls as determined by the Stormwater Management Planning and Design Manual (OMOE, 2003) are applied in the following areas:

- Hamilton Harbour *Watershed* – Enhanced (Level 1) Quality Control Standards
- Stoney Creek *Watersheds* (outletting directly to Lake Ontario) – Normal (Level 2) Quality Control Standards

In reviewing a *SWM* plan, the *Authority* will also examine potential impacts of that facility on aquatic species, stream morphology and/or flooding and erosion.

12.1 General Policies

Any stormwater management proposals within the *Authority's watershed* must be in accordance with the following policies and guidelines and must be to the satisfaction of the *Authority*. These proposals, including detailed engineering studies and analyses, must be prepared by a qualified professional. Each proposal should utilize *Best Management Practices (BMPs)* and should provide all opportunities for protection and rehabilitation of natural features and their *ecological functions*.

- a. In providing preliminary input into and review of stormwater management (*SWM*) plans, *Authority* staff shall refer developers and their consultants to the Stormwater Management Planning and Design Manual (OMOE, 2003), and any amendments, updates, or revisions thereto, for assistance in preparing *SWM* plans that will be acceptable to all reviewing agencies.
- b. In reviewing *SWM* plans within the City of Hamilton, *Authority* staff shall refer developers and their consultants to the draft Storm Drainage Policy (City of Hamilton and Phillips Engineering Ltd., 2006) and the Criteria and Guidelines for Stormwater Infrastructure Design (City of Hamilton, 2004), and any amendments, updates, or revisions thereto, in order to ensure that proponents are in compliance with municipal requirements for such projects.
- c. In reviewing *SWM* plans, *Authority* staff will ensure that they are in conformity with any municipally-approved sub-*watershed* plans.

12. 2 Additional Requirements

The Ontario Ministry of the Environment (OMOE) Stormwater Management Planning and Design Manual provides comprehensive technical and procedural guidance for the planning, design and review of Stormwater Management (SWM) facilities. The *HCA's* role as a planning authority, coupled with its mandate to consider the impacts of *development* on the natural environment, means that the *Authority* has a responsibility to consider long-term impacts when reviewing the designs of such facilities.

The following policies are based on the *Authority's* understanding of the need to develop and monitor stormwater facilities for their impacts on natural environmental features, particularly with regard to water quality and quantity.

12. 2. 1 Stormwater Management Ponds

- a. All SWM pond site placements shall adhere to fisheries setback requirements. Additionally, they shall be required to locate above the *Regulatory Flood* level wherever site conditions permit.
- b. The *Authority* will not support the establishment of in-stream SWM ponds.
- c. Stormwater management ponds will not be permitted on lands adjacent to an *Environmental Significant Area (ESA)*, a *natural heritage feature or area*, or a hydrologically *sensitive* area unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated, through the completion of an Environmental Impact Statement (*EIS*), that there will be no *negative impacts* on the natural features or on their *ecological functions*.

12. 2. 2 Environmental Monitoring Studies

- a. In instances where a SWM facility is located adjacent to an *Environmentally Significant Area (ESA)*, a *natural heritage feature or area*, or a hydrologically *sensitive* area (i.e. recharge/discharge area), the *Authority* will encourage the municipality to require that an Environmental Monitoring Study be prepared by the applicant. Such a study may require the review of any or more of the following features:
 - i. *Watercourses*;
 - ii. *Groundwater*;
 - iii. The natural features or *ecological functions* for which the area in question is identified; and
 - iv. The completed SWM facilities.

Additionally, the *Authority* will encourage the municipality to ask for any or all of the following conditions as part of these studies:

1. A Report of Findings, to be conducted on an annual basis over a 2-5 yr time period, as determined to be necessary by the appropriate decision-making body;
2. That baseline conditions for monitoring studies be taken prior to *development* and related to post-*development* conditions; and
3. That monitoring reports clearly indicate any adaptive management strategies that may be required for implementation in the event of future need, as based on study findings.

12. 2. 3 Quality and Quantity Controls

- a. Proponents are to consult with the *Authority* on the appropriate water quality and quantity requirements for the proposed *development*.
- b. Water quality requirements are to be based on fisheries habitat assessments.
- c. Vegetative planting will be required for all quality *SWM* ponds. Where *Authority* staff deem it to be necessary a vegetation plan may be required. Such plans should follow the guidelines established in Section 10.1 of this document.
- d. For those areas within sub-*watersheds* that contain centralized stormwater quantity facilities, no constructed on-site quantity controls will be required. However, any passive/conveyance quantity controls (e.g. reduced lot grading, etc.) that have been recommended by an Environmental Assessment, Master Drainage Plan, Sub-*watershed* Plan or any other plan or study deemed to be relevant for that *development* by the *Authority*, are to be implemented.
- e. For those areas within sub-*watersheds* that contain centralized stormwater quality facilities, any required *development* controls as have been recommended by an Environmental Assessment, Master Drainage Plan, Sub-*watershed* Plan or any other plan or study deemed to be relevant for that *development* by the *Authority*, are to be implemented.
- f. For those areas without centralized *SWM* facilities, Sub-*watershed* or Master Drainage Plans, the proponent may be required, at a minimum, to control pre- to post-*development* flows from the 1:2 year storm event up to the 1:100 year storm event where required. In addition, the proponent will be required to implement appropriate water quality controls, and any erosion control requirements as have been identified by an Environmental Assessment, Master Drainage Plan, Sub-*watershed* Plan or any other plan or study deemed to be relevant for that site by the *Authority*.
- g. Lot-level and conveyance control (e.g. parking lot storage, grassed swales) ponding depths shall generally be limited to 300 mm with durations of less than one hour.
- h. Generally, rooftop controls will not be considered by the *Authority*. Where rooftop controls are necessary due to site constraints, a maintenance agreement, and restrictive covenant with the owner will be required.

12. 2. 4 Stormwater Management Report Requirements

- a. All *SWM developments* within the *watershed* that are >0.25 ha, or are deemed by the *Authority* to be a high pollutant *development* (e.g. transport truck washing stations, truck parking facilities, etc.), will be required to complete a *SWM* plan to the satisfaction of the *Authority*.
- b. Areas of hydrological significance where groundwater, surface water, fisheries or terrestrial habitat are of concern, shall be required to conduct a water balance for the *development* and design the *development* to meet or improve existing conditions.

12. 2. 5 Report Time Frames

- a. When the *Authority* determines that the natural, policy, or regulatory environments have changed to such a degree that an existing report (e.g. Master Drainage Plan, Environmental Assessment, etc.) may be deemed outdated, the completion of a new study or the revision of applicable sections of the original report, may be required.

13 Definitions

100 year flood: means rainfall or snowmelt, or a combination of rainfall and snowmelt producing at any location in a river, creek, stream or *watercourse*, a peak flow that has a probability of occurrence of one per cent during any given year. The quantity and distribution of this storm is defined by the Conservation Authority and is used as the storm centred event for regulatory purposes for *watercourses* WCO, WCI, WC2, 3,4,5.0, 5.1, 6.0, 6.1, 6.2, 6.3, 6.4, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, 10.1, 10.2, 11.0 and 12.0 as indicated on Map Figure 1 of Project 98040-A, Stoney Creek, Stormwater Management Assessment, prepared by Philips Engineering and located at the Authority Administrative office in Ancaster, Ontario, to which *watercourses* the 100 year flood event applies. [PPS & HCA Reg. 161/06]

100 year flood level: means, for the shorelines of Lake Ontario in the *Great Lakes-St. Lawrence River System*, the peak instantaneous still water level plus an allowance for *wave action* and *other water-related hazards* that has a probability of occurrence of one per cent during any given year. [HCA Reg. 161/06]

AOC: means Area of Concern.

Access standards: means methods or procedures to ensure safe vehicular and pedestrian movement, and access for the maintenance and repair of protection works, during times of *flooding hazards*, *erosion hazards* and/or *other water-related hazards*. [PPS]

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 naturally and normally incidental to the main use of the premises. Examples of such structures include decks, tool sheds, pools, pool houses, and gazebos. Above ground swimming pools are not considered to be an accessory structure.

Addition: means any construction occurring on an existing structure that serves to increase the total area of that *building*. The Authority categorizes additions according to the following guidelines:

- a. **Minor:** means any addition less than 50% of the *original ground floor area* of the existing structure, which does not increase the number of *dwelling units*, as existed on October 6, 2005.
- b. **Major:** means any addition greater than or equal to 50% of the *original ground floor area* of the existing structure as existed on October 6, 2005.

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. The extent of adjacent lands is based on information on the effectiveness of setbacks, landforms and sustainable natural vegetation in preventing or mitigating any *negative impacts* that might be expected to occur adjacent to a feature or area. Adjacent lands are not synonymous with *vegetation protective zone / buffer* areas, nor are they necessarily *no-development* zones. [PPS & MNR Natural Heritage Reference Manual]

Alteration to a watercourse: means straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or *watercourse*. Examples of an alteration include, but are not limited to: channelizations, full or partial diversions, retaining walls, revetments, bridges, culverts, pipeline crossings, docks, erosion protection measures, and construction of storm sewer outlets.

ANSI: see *area of natural and scientific interest*.

Area of interference: means the area located outside of the *wetland* that could impact the *wetland* if *development* were to be permitted.

Area of Natural and Scientific Interest (ANSI): means an area of land and/or water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education. ANSI's are identified using evaluation procedures established by the Province, as amended from time to time. [PPS]

Authority: means the Hamilton Conservation Authority.

Best Management Practices (BMPs): means methods, facilities and structures which are designed to protect or improve the environment and *natural heritage features* from the effects of land *development* activities. BMPs can include, but are not limited to, land use restrictions, source control of pollutants, stormwater management ponds, grassed swales, underground storage facilities, woodlot management, soil erosion control, crop rotation, tree windbreaks and natural fencerows.

Buffer: see *vegetation protective zone*.

BMP: see *best management practices*.

Building: means something that is built; a structure of any kind.

CA: means Conservation Authority.

CO: means Conservation Ontario.

COSEWIC: means the Committee on the Status of Endangered Wildlife in Canada.

COSSARO: means the Committee on the Status of Species at Risk in Ontario.

Coastal wetland: means

- a. any *wetland* that is located on one of the Great Lakes or their connecting channels (Lake St. Clair, St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers); or
- b. any other *wetland* that is on a tributary to any of the above-specified water bodies and lies, either wholly or in part, downstream of a line located 2 kms upstream of the 1:100 year floodline (plus wave run-up) of the large water body to which the tributary is connected. [PPS]

Confined system: means a system wherein the *watercourse* is located within a valley corridor, either with or without a *flood plain*, and is confined by valley walls. The *watercourse* can be located at the toe of the *valley slope*, in close proximity to the toe of the *valley slope* (less than 15 m), or removed from the toe of the *valley slope* (more than 15 m). The *watercourse* can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels.

Conservation of land: means the protection, preservation, management, or restoration of land (including the physical and biological resources and processes) from loss, damage, or neglect.

Critical Habitat: those *fish habitats* which have high productive capacity, are rare, highly sensitive to *development*, or have a critical role in sustaining fisheries (e.g., spawning and nursery areas for some species, and ground water discharge areas). The *Authority* requires that a minimum *vegetation protective zone / buffer* of 30 m be maintained on both sides of a *watercourse* that has been identified as Critical Habitat, although this may be adjusted upwards if indicated appropriate through fisheries assessments. Critical Habitat corresponds with the older *MNR* classification for Type 1 *watercourses*. Also see *Important* and *Marginal Habitat*.

DFO: means Fisheries and Oceans Canada.

Designated vulnerable area: means areas defined as *vulnerable*, in accordance with provincial standards, by virtue of their importance as a drinking water source that may be impacted by activities or events. [PPS]

Development:

- A. As it pertains to the Conservation Authorities Act, 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.

- B. As it pertains to the Planning Act, Provincial Policy Statement, and Greenbelt Plan means the creation of a new lot, a change in land use, or the construction of *buildings* and structures, requiring approval under the Planning Act, but does not include:
 - a. Activities that create or maintain infrastructure authorized under an environmental assessment process; or
 - b. Works subject to the Drainage Act. (PPS).

Disconnected features: means those features that have, as a result of *development* or natural processes, become disconnected from the feature with which they were originally associated. An example of a disconnected feature is a section of *valley slope* that has been disconnected from the primary slope as a result of road construction.

Dry floodproofing: means *floodproofing* where the objective is to keep a *development* or structure and its contents completely dry during a flood event. There are two basic techniques to dry floodproofing:

- a. Dry passive *floodproofing* includes the use of *fill*, columns or design modifications to elevate openings in the structure at or above the level of the *Regulatory Flood*. These measures do not require flood warning or any other action to put the flood protection into effect.
- b. Dry active *floodproofing* utilizes techniques such as water tight doors, seals, berms/floodwalls to prevent water from entering openings below the level of the *Regulatory Flood*. Advance flood warning is almost always required in order to make the flood protection operational (i.e. closing of water tight doors, installation of waterproof protective coverings over windows, etc.). [Flood Plain Planning Policy Statement]

Dwelling unit: means one or more habitable rooms, occupied or capable of being occupied as an independent and separate housekeeping establishment, in which separate kitchen and sanitary facilities are provided for the exclusive use of the occupants. [Planning Act]

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. [PPS]

EA: means Environmental Assessment.

EC: means Environment Canada.

EIS: means Environmental Impact Statement.

EO: see *element occurrence*.

ESA: see *environmentally significant area*.

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. [PPS]

Endangered species: means a wildlife species that is facing imminent *extirpation* or *extinction*. These species are listed or categorized as an “Endangered Species” on the Ontario Ministry of Natural Resources’ official species at risk list, as updated and amended from time to time. [PPS & EC]

Element occurrence (EO): A term used by conservation data centres and NatureServe that refers to an occurrence of an element of biodiversity on the landscape; an area of land and/or water on/in which an element (e.g. species or ecological community) is or was present. An EO has a conservation value for the element: it is a location important to the conservation of the species or community. For a species, an EO is generally the habitat occupied by a local population. What constitutes an occurrence varies among species. Breeding colonies, breeding *ponds*, denning sites and hibernacula are general examples of different types of animal EOs. For an ecological community, an EO may be the area containing a patch of that community type.

Environmentally Significant Area (ESA): means a natural area that has been identified as being significant and worthy of protection based on three criteria: ecology, hydrology and geology.

Erosion access allowance: is an *access standard* that is needed to ensure there is a big enough safety zone for people and vehicles to enter and exit an area during an emergency, and/or for maintenance purposes, such as a slope failure or flooding. The *Authority* requires that the minimum erosion access allowance is 6 m, where possible. [MNR, 2001]

Erosion hazard: means the loss of land, due to human or natural processes, that poses a threat to life and/or 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 hundred year time span), an allowance for slope stability and an erosion/*erosion access allowance*. This includes erosion due to karst-forming processes. [PPS]

Extinction: refers to a species and indicates that it no longer exists. [EC]

Extirpation: refers to a wildlife species and indicates that it no longer exists in the wild in Canada, but exists elsewhere. [EC]

Fill: means earth, sand, gravel, rubble, 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 existing contours of the ground.

Fish: means fish, which as defined in S.2 of the Fisheries Act, c. F-14, as amended, includes fish, shellfish, crustaceans, and marine animals, at all stages of their life cycles. [PPS]

Fish habitat: as defined in the Fisheries Act, C. F-14, means the spawning grounds and nursery, rearing, food supply and migration areas on which *fish* depend directly or indirectly, in order to carry out their life processes. [PPS]

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 *100 year flood level* plus an allowance for *wave action* and *other water-related hazards*.
- b. Along *river and stream systems*, the flooding hazard limit is the greater of:
 - i. The flood resulting from the rainfall actually experienced during a major storm such as the *Hurricane Hazel* Storm (1954), transposed over a specific *watershed* and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over *watershed* in the general area;
 - ii. The *100 year flood*; or
 - iii. A flood which is greater than (i) or (ii) 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 *100 year flood* or the actually experienced event has been approved by the Minister of Natural Resources as the standard for a specific *watershed* (where the history of past flooding supports the lowering of the standard). [PPS]

Floodproofing (also see *Wet and Dry floodproofing*): means the combination of structural and non-structural *additions*, changes or adjustments incorporated into the basic design and/or construction of *buildings*, structures, or properties to reduce or eliminate flood damage to real estate, improved real property, water and sanitary facilities, structures or their contents.

Flood fringe: means the outer portion of the *flood plain* between the *floodway* and the *flooding hazard* limit. In the case of the *Dundas Special Policy Areas*, the flood fringe is defined as the balance of those lands located between the *floodway* and the furthest limit of the *Regional Storm (Hurricane Hazel)*.

Flood plain: means the area, usually low lands adjoining a *watercourse*, which has been or may be subject to *flooding hazards*.

Floodway: 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 floodway 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 damage. In the case of the *Dundas Special Policy Areas* the floodway is defined as the *flood plain* resulting from the 100 year storm, with the *flood fringe* being the balance of the *Regional Flood plain*.

Great Lakes-St. Lawrence River System: means the major water system consisting of Lakes Superior, Huron, St. Clair, Erie and Ontario and their connecting channels, and the St. Lawrence River within the boundaries of the Province of Ontario. [PPS]

Ground water feature: refers to water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations. [PPS]

HADD: means the harmful alteration, disruption or destruction of *fish habitat*, as defined under the Fisheries Act.

HCA: means the Hamilton Conservation Authority.

Hazardous lands: means property or lands that could be unsafe for *development* due to naturally occurring processes. Along the shorelines of the *Great Lakes-St. Lawrence River System*, this means the land, including that covered by water, between the international boundary, where applicable, and the furthest landward limit of the *flooding hazard*, *erosion hazard* or *dynamic beach hazard* limits. 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 and stream and small inland lake systems, this means the land, including that covered by water, to the furthest landward limit of the *flooding hazard* or *erosion hazard* limits. Hazardous lands also include *hazardous sites*. [PPS]

Hazardous sites: means property or lands that could be unsafe for *development* and *site alteration* due to naturally occurring hazards. These may include unstable soils (organic soils) or unstable bedrock (karst topography). Karst topography can include, but is not limited to features such as: *sinkpoints*, caves, *sinkholes*, fissures, and springs. [PPS]

Hazardous substance: 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]

Hurricane Hazel: means a storm occurring in October 1954 in Southern Ontario, whose quantity and distribution is defined in Ontario Regulation 161/06, under Regulation 97/04 and which is used as the riverine flood event standard to all *watersheds* in the jurisdiction of the HCA with the exception of the numbered *watercourses* in the former City of Stoney Creek.

Hydrologic function: means the functions of the hydrological 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. [PPS]

Important Habitat: means those *fish habitats* which are moderately sensitive to *development* and, although important to the *fish* population, are not considered critical (e.g. feeding areas, open water habitats of lakes). The Authority requires that a minimum *vegetation protective zone / buffer* of 15 m be maintained on both sides of a *watercourse* that has been identified as Important Habitat. Important Habitat corresponds with the older MNR classification for Type 2 *watercourses*. Also see *Critical* and *Marginal Habitat*.

Interference with Wetlands: means any *development* and / or *site alteration* within a *wetland's area of interference*.

LRIA: means Lakes and Rivers Improvement Act.

Large Inland Lakes: means those water bodies having a surface area equal to or greater than 100 km² where there is not a measurable or predictable response to a single runoff event.

MMAH: means the Ontario Ministry of Municipal Affairs and Housing.

MNR: means Ontario Ministry of Natural Resources.

MOU: means Memorandum of Understanding.

Marginal Habitat: means those *fish habitats* which have low productive capacity or are highly degraded, and do not currently contribute directly to *fish* productivity. They often have the potential to be improved significantly (e.g. a portion of a waterbody, such as a channelized stream, that has been highly altered physically). The *Authority* requires that a minimum *vegetation protective zone / buffer* of 15 m be maintained on both sides of a *watercourse* that has been identified as Marginal Habitat. Marginal Habitat corresponds with the older *MNR* classification for Type 3 *watercourses*. Also see *Critical* and *Important Habitat*.

Meander belt allowance: means the setback that keeps *development* from being affected by river and stream meandering (this includes allowance for the 100 year erosion rate). [*MNR*, 2001]

NEC: means Niagara Escarpment Commission.

NEP: means Niagara Escarpment Plan.

Natural Areas Inventory (NAI): refers to an extensive biological review of all the significant natural areas in the former Regional Municipality of Hamilton-Wentworth (now the City of Hamilton). The resulting documents contain detailed descriptions of each natural area and its significant features including:

- A complete listing of the flora and fauna of each natural area;
- An annotated listing of plants, reptiles, amphibians, butterflies, *fish*, nesting birds and mammals of this Region;
- A detailed description of the geology, soils and hydrology of the Region;
- *Watershed* summaries of all the stream systems;
- Mapped locations of rare species; and
- A technical library backing up all of the database and report information.

Natural heritage features or areas: means features and areas, including *significant wetlands*, *significant coastal wetlands*, *fish habitat*, *significant woodlands*, *significant valleylands*, *significant habitat of endangered species* and *threatened species*, *significant wildlife habitat*, and *significant Areas of Natural and Scientific Interest*, which are important for their environmental and social values as a legacy of the natural landscape of an area. [*PPS*]

Natural heritage system: means a system made up of *natural heritage features and areas*, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state. [*PPS*]

Negative impacts: means

- a. In regard to water, the degradation to the *quality and quantity of water, sensitive surface water features and sensitive ground water features*, and their related *hydrologic functions*, due to single, multiple or successive *development or site alteration* activities;
- b. In regard to *fish habitat*, the harmful alteration, disruption or destruction (*HADD*) of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principle of no net loss of productive capacity; and
- c. In regard to other *natural heritage features and areas*, the degradation that threatens the health and integrity of the natural features or *ecological functions* for which an area is identified due to single, multiple or successive *development or site alteration* activities. [*PPS*]

OMB: means Ontario Municipal Board.

OP: means Official Plan.

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.

Open arboretum: means a plot of land or facility where trees and shrubs are cultivated for scientific, educational, and/or ornamental purposes and which does not require any closed structures.

Original ground floor area: means the habitable ground floor area of a *building* as existed on October 6, 2005.

Other water-related hazard: means water-associated phenomena other than *flooding hazards* and *wave action* which act on shorelines. This includes, but is not limited to ship-generated waves, ice piling and ice jamming. [*PPS*]

PBWP: means Parkway Belt West Plan.

PPS: means Provincial Policy Statement, 2005, or any amendments, updates, or revisions thereto.

PSW: see Provincially *Significant Wetland*.

Pond: means a body of water usually smaller than a lake, encircled by vegetation, and generally shallow enough for sunlight to reach the bottom. Rooted plants can grow in any spot within the pond creating a habitat for various forms of animal life.

- **In-stream pond (a.k.a. on-line):** a pond that has been constructed by digging out or dredging an area within an existing *watercourse* or by damming a *watercourse*.

Pollution: means any deleterious physical substance or other contaminant that has the potential to be generated by *development* in an area. [O. Reg. 97/04]

Protection works standards: 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 to allow access for their maintenance and repair. [PPS]

Provincial and federal requirements: means legislation and policies administered by the federal or provincial governments for the purpose of the protection of *fish* and *fish habitat*, and related, scientifically established standards such as water quality criteria for protecting lake trout populations. [PPS]

Quality and quantity of water: is measured by indicators such as minimum base flow, depth to water table, aquifer pressure, oxygen levels, suspended solids, temperature, bacteria, nutrients and hazardous contaminants, and hydrologic regime. [PPS]

RAP: means Remedial Action Plan.

Regional Flood: means the rainfall event and soil conditions existing during *Hurricane Hazel*, transposed over a specific *watershed* and combined with local conditions.

Regulatory Flood: means the applicable flood or storm standard utilized to determine the maximum susceptibility to flooding of lands or areas within the *watersheds* in the jurisdiction of the *Authority*. The flood event standards used to define the regulatory flood within the *Authority's* jurisdiction are: *Hurricane Hazel*, the *100 Year Flood*, and the *100 Year Flood Level plus wave action* and *other water-related hazards*.

Replacement structure: means the restoration of a *building* or structure to its original form (i.e. same dimensions, square footage and *building footprint*).

River, stream and small inland lake systems: means all *watercourses*, rivers, streams, and small inland lakes or waterbodies that have a measurable or predictable response to a single runoff event. [PPS]

SARA: means the Species at Risk Act.

SARO: means Species at Risk in Ontario.

SPA: see *Special Policy Area*.

SWM: means stormwater management.

Sensitive: in regard to *surface water features* and *ground water features*, means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants. [PPS]

Significant: means

- a. In regard to *wetlands*, *coastal wetlands* and *Areas of Natural and Scientific Interest*, and area identified as Provincially Significant by the *MNR* using evaluation procedures established by the Province, as amended from time to time;
- b. In regard to the habitat of *endangered species* and *threatened species*, means the habitat, as approved by the *MNR*, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of *endangered species* or *threatened species*, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;
- c. In regard to *woodlands*, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history; and
- d. In regard to *valleylands* and *wildlife habitat*, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or *natural heritage system*. [*PPS*]

Sinkhole: means a topographically closed depression, commonly circular or oval in plain view; commonly referred to as dolines. [*MNR*, 2003]

Sinkpoint: means the point where a stream sinks underground into a conduit. [*MNR*, 2003]

Site Alteration: means activities, such grading, excavation and the placement of *fill* that would change the landform and natural vegetative characteristics of a site. [*PPS*]

Special Policy Area (SPA): 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 to 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 viable opportunities for *development* outside the *flood plain*. [*PPS*]

Stable slope allowance: means the setback that ensures safety if slumping or slope failure occur. Refers to the suggested angle of stability for a slope is 3:1 (horizontal: vertical) or approximately 18 degrees. The stable slope allowance is a horizontal allowance measured landward from the *toe of slope* that is relative to the height of the slope. [*MNR*, 2001]

Surface water feature: refers to water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, *wetlands*, *sinkholes*, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics. [*PPS*]

Threatened species: means a wildlife species that is likely to become an *endangered species* if nothing is done to reverse the factors leading to its *extirpation* or *extinction*. These species are listed or categorized as a "Threatened Species" on the Ontario Ministry of Natural Resources' official species at risk list, as updated and amended from time to time. [*PPS* & *EC*]

Toe erosion allowance: means the setback that ensures safety if the toe of the slope adjacent to the river or stream erodes and weakens the bank, increasing the risk of slumping. (MNR, 2001)

Toe of slope (a.k.a. base of slope): means the point of the slope where the downward inclination of the land levels off or the upward inclination of the land begins.

Top of slope (a.k.a. crest of slope, top of bank): means the point of the slope where the downward inclination of the land begins or the upward inclination of the land levels off.

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 *floodproofing*. The *floodway* defines that portion of the *flood plain* wherein *development* is prohibited or restricted. These technical studies need to be approved by the province prior to implementation of the two zone concept.

Unconfined system: means a system wherein the *watercourse* is not located within a valley corridor with discernible slopes, but relatively flat to gently rolling plains and is not confined by valley walls. The *watercourse* can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels.

Valley Slope: refers to the area between *top of slope* and *toe of slope*.

Valleylands: means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. [PPS]

Vegetation Protective Zone (Buffer): means permanent zones of natural self-sustaining native vegetation that border natural features (e.g. streams, *wetlands*, woodlots, shorelines) and are established to protect natural areas from the impacts of *development* or *site alteration*. The width of the vegetation protection zone 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. [Greenbelt Plan, 2005]

Vulnerable: means surface and groundwater that can be easily changed or impacted by activities or events, either by virtue of their vicinity to such activities or events or by permissive pathways between such activities and the surface and/or groundwater. [PPS]

Watercourse: means an identifiable depression in the ground in which a flow of water regularly or continuously occurs. Where the thermal regime of a watercourse is in question (i.e. whether the watercourse is classified as warmwater, coolwater, or coldwater) the methods of Stoneman, C.L. and Jones, M.L. (1996) will be utilized.

Watershed: means an area that is drained by a river and its tributaries.

Wave action: means the combination of *wave uprush*, *wave setup*, and *wave overtopping*. [MNR, 2001]

Wave overtopping: essentially occurs when the height of the natural shoreline, or of the protection work, above the stillwater level is less than the limit of uprush. As a result, waves overtopping the protection work can cause flooding of the onshore and can threaten the structural stability of protection works. [MNR, 2001]

Wave setup: means the mean increase in water level caused by the onshore transport of water due to waves breaking at the shoreline. [MNR, 2001]

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. [MNR, 2001]

Wet floodproofing: means *floodproofing* that involves designing a structure using materials, methods and design measures that maintain structural integrity by avoiding external unbalanced forces from acting on *buildings* during and after a flood, to reduce flood damage to contents, and to reduce the cost of post flood clean up. *Buildings* or structures are designed so as to intentionally allow flood waters to enter and exit. These *floodproofing* measures require that the interior space below the level of the *Regulatory Flood* remain unfinished, be non-habitable, and be free of service units and panels. [Flood Plain Planning Policy Statement]

Wetlands: means lands that:

- a. Are seasonally or permanently covered by shallow water or has a water table close to or at its surface;
- b. Directly contribute to the hydrological function of a *watershed* through connection with a surface *watercourse*;
- c. Have hydric soils, the formation of which has been caused by the presence of abundant water; and
- d. Have 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). The four major types of wetlands are swamps, marshes, bogs and fens. [O. Reg. 97/04]

Wildlife habitat: means areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle and areas which are important to migratory or non-migratory species. [PPS]

Woodlands: means treed areas that provide environmental, social and economic benefits to both the private landowners and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of *wildlife habitat*, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels. [PPS]

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15 Appendices

Appendix A	– CO, MNR & MMAH Memorandum of Understanding
Appendix B	– HCA Regulation 161/06 under Ontario Regulation 97/04
Appendix C	– Determination of Regulation Limits
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**APPENDIX A – Conservation Ontario, Ministry of Natural
Resources & Ministry of Municipal Affairs
and Housing Memorandum of Understanding**

INTRODUCTION

The Memorandum of Understanding between Conservation Ontario, the Ontario Ministry of Natural Resources and the Ontario Ministry of Municipal Affairs and Housing is provided in the following pages. This agreement has been effective since 2001. For information regarding this agreement, the reader should contact Authority staff for amendments, revisions, or updates thereto.

**CONSERVATION ONTARIO,
MINISTRY OF NATURAL RESOURCES &
MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING**

**MEMORANDUM OF UNDERSTANDING ON PROCEDURES TO
ADDRESS CONSERVATION AUTHORITY
DELEGATED RESPONSIBILITY**

PURPOSE OF THE MOU

The MOU defines the roles and relationships between Conservation Authorities (CAs), the Ministry of Natural Resources (MNR), and the Ministry of Municipal Affairs and Housing (MMAH) in planning for implementation of CA delegated responsibilities under the Provincial One Window Planning System.

BENEFITS TO SIGNATORY PARTIES

It is beneficial for all parties to enter into this agreement because it clarifies the roles of CAs and the unique status of CAs in relationship to the Provincial One Window Planning System.

DELEGATED RESPONSIBILITY FOR NATURAL HAZARDS

CAs were delegated natural hazard responsibilities by the Minister of Natural Resources. A copy of the delegation letter is attached. This letter (dated April 1995) went to all CAs and summarizes delegations from the MNR including flood plain management, hazardous slopes, Great Lakes shorelines, unstable soils and erosion which are now encompassed by Section 3.1 "Natural Hazards" of the Provincial Policy Statement (1997). In this delegated role, the CA is responsible for representing the "Provincial Interest" on these matters in planning exercises where the Province is not involved.

This role does not extend to other portions of the PPS unless specifically delegated or assigned in writing by the Province.

ROLES AND RESPONSIBILITIES

Ministry of Natural Resources

- a) MNR retains the provincial responsibility for the development of flood, erosion and hazard land management policies, programs and standards on behalf of the province pursuant to the *Ministry of Natural Resources Act*.
- b) Where no conservation authorities exist, MNR provides technical support to the Ministry of Municipal Affairs and Housing on matters related to Section 3.1 of the Provincial Policy Statement in accordance with the "Protocol Framework – One Window Plan Input, Review and Appeals".
- c) MNR, in conjunction with MMAH, co-ordinates the provincial review of applications for Special Policy Area approval under Section 3.1 of the PPS.

Ministry of Municipal Affairs and Housing

- a) MMAH coordinates provincial input, review and approval of policy documents, and development proposals and appeals to the Ontario Municipal Board in accordance with the "Protocol Framework One Window Plan Input Review and Appeals".
- b) Where appropriate, MMAH will consult conservation authorities as part of its review of policy documents and development proposals to seek input on whether there was "regard to" Section 3.1 of the PPS.
- c) Where there may be a potential conflict regarding a Conservation Authority's comments on a planning application with respect to Section 3.1 of the PPS and comments from provincial ministries regarding other Sections of the PPS, the Ministry of Municipal Affairs and Housing will facilitate discussions amongst the affected ministries and the Conservation Authority so that a single integrated position can be reached.
- d) Where appropriate, MMAH will initiate or support appeals to the OMB on planning matters where there is an issue as to whether there was "regard to" Section 3.1 of the PPS.
- e) MMAH, in conjunction with MNR, coordinates the provincial review of application for Special Policy Area approval under Section 3.1 of the PPS.

Conservation Authorities (CAs)

- a) The CAs will review policy documents and development proposals processed under the *Planning Act* to ensure that the application has appropriate regard to Section 3.1 of the PPS.
- b) Upon request from MMAH, CAs will provide comments directly to MMAH on planning matters related to Section 3.1 of the PPS as part of the provincial one window review process.
- c) Where there may be a potential conflict regarding a Conservation Authority's comments on a planning application with respect to Section 3.1 of the PPS and comments from provincial ministries regarding other Sections of the PPS, the Ministry of Municipal Affairs and Housing will facilitate discussions amongst the affected ministries and the Conservation Authority so that a single integrated position can be reached.
- d) CAs will apprise MMAH of planning matters where there is an issue as to whether there has been "regard to" Section 3.1 of the PPS to determine whether or not direct involvement by the province is required.
- e) Where appropriate, CAs will initiate an appeal to the OMB to address planning matters where there is an issue as to whether there has been "regard to" Section 3.1 of the PPS is at issue. CAs may request MMAH to support the appeal.
- f) CAs will participate in provincial review of applications for Special Policy Area approval.
- g) CAs will work with MMAH, to develop screening and streamlining procedures that eliminate unnecessary delays and duplication of effort.

FURTHER CA ROLES IN PLAN INPUT, PLAN REVIEW AND APPEALS

CAs also undertake further roles in planning under which they may provide plan input or plan review comments or make appeals.

1. Watershed Based Resource Management Agency

CAs are corporate bodies created by the province at the request of two or more municipalities in accordance with the requirements of the *Conservation Authorities Act (CA Act)*. Section 20 of the *CA Act* provides the mandate for an Authority to offer a broad resources management program. Section 21 of the *CA Act* provides the mandate to have watershed-based resource management programs and/or policies that are approved by the Board of Directors.

CAs operating under the authority of the *CA Act*, and in conjunction with municipalities, develop business plans, watershed plans and natural resource management plans within their jurisdictions (watersheds). These plans may recommend specific approaches to land use and resource planning and management that should be incorporated into municipal planning documents and related development applications in order to be implemented. CAs may become involved in the review of municipal planning documents (e.g., Official Plans (OPs), zoning by-laws) and development applications under the *Planning Act* to ensure that program interests developed and defined under Section 20 and 21 of the *CA Act* are addressed in land use decisions made by municipal planning authorities. In this role, the CA is responsible to represent its program and policy interests as a watershed-based resource management agency.

2. Planning Advisory Service to Municipalities

The provision of planning advisory services to municipalities is implemented through a service agreement with participating municipalities or as part of a CAs approved program activity (i.e., service provided through existing levy). Under a service agreement, a Board-approved fee schedule is used and these fee schedules are coordinated between CAs that "share" a participating municipality. The "Policies and Procedures for the Charging of CA Fees" (MNR, June 13, 1997) identifies "plan review" activities as being eligible for charging CA administrative fees.

The CA is essentially set up as a technical advisor to municipalities. The agreements cover the Authority's areas of technical expertise, e.g., natural hazards and other resource management programs. The provision of planning advisory services for the review of *Planning Act* applications is a means of implementing a comprehensive resource management program on a watershed basis.

In this role, the CA is responsible to provide advice on the interpretation of the Provincial Policy Statement (PPS) under the terms of its planning advisory service agreement with the municipality. Beyond those for Section 3.1 "Natural Hazards" where CAs have

delegated responsibility, these comments should not be construed by any party as representing the provincial position.

3. CAs as Landowner

CAs are landowners and as such, may become involved in the planning process as a proponent or adjacent landowner. Planning Service Agreements with municipalities have anticipated that this may lead to a conflict with our advisory role and this is addressed by establishing a mechanism for either party to identify a conflict and implement an alternative review mechanism.

4. Regulatory Responsibilities

a) *CA Act* Regulations

In participating in the review of development applications under the *Planning Act*, CAs will (i) ensure that the applicant and municipal planning authority are aware of the Section 28 regulations and requirements under the *CA Act*, and, (ii) assist in the coordination of applications under the *Planning Act* and the *CA Act* to eliminate unnecessary delay or duplication in the process.

b) Other Delegated or Assigned Regulatory/Approval Responsibility

Federal and provincial ministries and municipalities often enter agreements to transfer regulatory/approval responsibilities to individual CAs (e.g., Section 35 Fisheries Act/DFO; Ontario Building Code/septic tank approvals). In carrying out these responsibilities and in participating in the review of development applications under the *Planning Act*, CAs will (i) ensure that the applicant and municipality are aware of the requirements under these other pieces of legislation and how they may affect the application; and, (ii) assist in the coordination of applications under the *Planning Act* and those other Acts to eliminate unnecessary delays or duplication in the process.

CANCELLATION OR REVIEW OF THE MOU

The terms and conditions of this MOU can be cancelled within 90 days upon written notice from any of the signing parties. In any event, this document should be reviewed at least once every two years to assess its effectiveness, its relevance and its appropriateness in the context the needs of the affected parties. "Ed. Note: 90 days is to provide time for the parties to reach a resolution other than cancellation".

**MEMORANDUM OF UNDERSTANDING ON PROCEDURES TO ADDRESS
CONSERVATION AUTHORITY DELEGATED RESPONSIBILITY**

I hereby agree to support the provisions contained in this Memorandum of Understanding as an appropriate statement of the roles and responsibilities of relevant Ministries and Conservation Authorities in the implementation of the Provincial Policy Statement.

Jan 19, 2001: Original signed by

David de Launay
Director
Lands and Waters Branch
Ministry of Natural Resources

Date

Feb 12, 2001: Original signed by

Audrey Bennett
A/Director
Provincial Planning and Environmental Services Branch
Ministry of Municipal Affairs and Housing

Date

Jan 01, 2001: Original signed by

R.D. Hunter
General Manager
Conservation Ontario

Date

**APPENDIX B – HCA Regulation 161/06 under
Ontario Regulation 97/04**

INTRODUCTION

The HCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation 161/06 under Ontario Regulation 97/04 is provided on the following pages. This Regulation was approved by the Minister of Natural Resources and is effective as of May 8, 2006. For more information regarding the Regulation within this appendix, the reader should contact Authority staff.

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ONTARIO REGULATION

made under the

CONSERVATION AUTHORITIES ACT

HAMILTON REGION CONSERVATION AUTHORITY: REGULATION OF DEVELOPMENT, INTERFERENCE WITH WETLANDS AND ALTERATIONS TO SHORELINES AND WATERCOURSES

Definition

1. In this Regulation,

“Authority” means the Hamilton Region Conservation Authority.

Development prohibited

2. (1) Subject to section 3, no person shall undertake development, or permit another person to undertake development in or on the areas within the jurisdiction of the Authority that are,

- (a) adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes that may be affected by flooding, erosion or dynamic beaches, including the area from the furthest offshore extent of the Authority’s boundary to the furthest landward extent of the aggregate of the following distances:
 - (i) the 100 year flood level, plus the appropriate allowance for wave uprush and other related hazards,
 - (ii) the predicted long term stable slope projected from the existing stable toe of the slope or from the predicted location of the toe of the slope as that location may have shifted as a result of shoreline erosion over a 100-year period,

- (iii) where a dynamic beach is associated with the waterfront lands, a 30 metre allowance inland to accommodate dynamic beach movement,
 - (iv) 15 metres inland;
- (b) river or stream valleys that have depressional features associated with a river or stream, whether or not they contain a watercourse, the limits of which are determined in accordance with the following rules:
- (i) where the river or stream valley is apparent and has stable slopes, the valley extends from the stable top of bank, plus 15 metres, to a similar point on the opposite side,
 - (ii) where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted long term stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predicted location of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to a similar point on the opposite side,
 - (iii) where the river or stream valley is not apparent, the valley extends the greater of,
 - (A) the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side, and
 - (B) the distance from the predicted meander belt of a watercourse, expanded as required to convey the flood flows under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side;
- (c) hazardous lands;
- (d) wetlands; or
- (e) other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands, and areas within 30 metres of all other wetlands, but not including those where development has been approved pursuant to an application made under the *Planning Act* or other public planning or regulatory process.
- (2) The areas described in subsection (1) are the areas referred to in section 12 except that, in case of a conflict, the description of the areas provided in subsection (1) prevails over the descriptions referred to in that section.

Permission to develop

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2 (1) if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.

(2) The permission of the Authority shall be given in writing, with or without conditions.

Application for permission

4. A signed application for permission to undertake development shall be filed with the Authority and shall contain the following information:

1. Four copies of a plan of the area showing the type and location of the development.
2. The proposed use of the buildings and structures following completion of the development.
3. The start and completion dates of the development.
4. The elevations of existing buildings, if any, and grades and the proposed elevations of buildings and grades after development.
5. Drainage details before and after development.
6. A complete description of the type of fill proposed to be placed or dumped.

Alterations prohibited

5. Subject to section 6, no person shall straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland.

Permission to alter

6. (1) The Authority may grant a person permission 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.

(2) The permission of the Authority shall be given in writing, with or without conditions.

Application for permission

7. A signed application for permission to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse or change or interfere with a wetland

shall be filed with the Authority and shall contain the following information:

1. Four copies of a plan of the area showing plan view and cross-section details of the proposed alteration.
2. A description of the methods to be used in carrying out the alteration.
3. The start and completion dates of the alteration.
4. A statement of the purpose of the alteration.

Cancellation of permission

8. (1) The Authority may cancel a permission if it is of the opinion that the conditions of the permission have not been met.

(2) Before cancelling a permission, the Authority shall give a notice of intent to cancel to the holder of the permission indicating that the permission will be cancelled unless the holder shows cause at a hearing why the permission should not be cancelled.

(3) Following the giving of the notice, the Authority shall give the holder at least five days notice of the date of the hearing.

Validity of permissions and extensions

9. (1) A permission of the Authority is valid for a maximum period of 24 months after it is issued, unless it is specified to expire at an earlier date.

(2) A permission shall not be extended.

Appointment of officers

10. The Authority may appoint officers to enforce this Regulation.

Flood event standards

11. (1) The applicable flood event standards used to determine the maximum susceptibility to flooding of lands or areas within the watersheds in the area of jurisdiction of the Authority are the Hurricane Hazel Flood Event Standard, the 100 Year Flood Event Standard and the 100 year flood level plus wave uprush, described in Schedule 1.

(2) The Hurricane Hazel Flood Event Standard applies to all watersheds within the area of jurisdiction of the Authority except for,

- (a) Watercourses WCO, WCI, WC2, 3, 4, 5.0, 5.1, 6.0, 6.1, 6.2, 6.3, 6.4, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, 10.1, 10.2, 11.0 and 12.0 as indicated on Map Figure 1 of Project 98040-A, Stoney Creek, Stormwater Management Assessment, prepared by Philips Engineering and located at the Hamilton Region Conservation Authority Administrative office in Ancaster, Ontario, to which watercourses the 100-year flood level applies;

- (b) Lake Ontario in the Great Lakes-St. Lawrence River System where the 100 year flood level plus wave uprush applies; and,
- (c) Hamilton Harbour in the Great Lakes-St. Lawrence River System where the 100 year flood level applies.

Areas included in the Regulation Limit

12. Hazardous lands, wetlands, shorelines and areas susceptible to flooding, and associated allowances, within the watersheds in the area of jurisdiction of the Authority are delineated by the Regulation Limit shown on maps 1 to 116 dated December 2005 and filed at the head office of the Authority at 838 Mineral Springs Road, P.O. Box 7099, Ancaster (Hamilton) Ontario under the map title "Ontario Regulation 97/04: Regulation for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses".

Revocation

13. Regulation 150 of the Revised Regulations of Ontario, 1990 is revoked.

SCHEDULE 1

1. The Hurricane Hazel Flood Event Standard means a storm that produces over a 48-hour period,

- (a) in a drainage area of 25 square kilometres or less, rainfall that has the distribution set out in Table 1; or
- (b) in a drainage area of more than 25 square kilometres, rainfall such that the number of millimetres of rain referred to in each case in Table 1 shall be modified by the percentage amount shown in Column 2 of Table 2 opposite the size of the drainage area set out opposite thereto in Column 1 of Table 2.

TABLE 1

73 millimetres of rain in the first 36 hours
6 millimetres of rain in the 37th hour
4 millimetres of rain in the 38th hour
6 millimetres of rain in the 39th hour
13 millimetres of rain in the 40th hour
17 millimetres of rain in the 41st hour
13 millimetres of rain in the 42nd hour
23 millimetres of rain in the 43rd hour
13 millimetres of rain in the 44th hour
13 millimetres of rain in the 45th hour
53 millimetres of rain in the 46th hour
38 millimetres of rain in the 47th hour
13 millimetres of rain in the 48th hour

TABLE 2

Column 1	Column 2
Drainage Area (square kilometres)	Percentage
26 to 45 both inclusive	99.2
46 to 65 both inclusive	98.2
66 to 90 both inclusive	97.1
91 to 115 both inclusive	96.3
116 to 140 both inclusive	95.4
141 to 165 both inclusive	94.8
166 to 195 both inclusive	94.2
196 to 220 both inclusive	93.5
221 to 245 both inclusive	92.7
246 to 270 both inclusive	92.0
271 to 450 both inclusive	89.4
451 to 575 both inclusive	86.7
576 to 700 both inclusive	84.0
701 to 850 both inclusive	82.4
851 to 1000 both inclusive	80.8
1001 to 1200 both inclusive	79.3
1201 to 1500 both inclusive	76.6
1501 to 1700 both inclusive	74.4
1701 to 2000 both inclusive	73.3
2001 to 2200 both inclusive	71.7
2201 to 2500 both inclusive	70.2
2501 to 2700 both inclusive	69.0
2701 to 4500 both inclusive	64.4
4501 to 6000 both inclusive	61.4
6001 to 7000 both inclusive	58.9
7001 to 8000 both inclusive	57.4

2. The 100 Year Flood Event Standard means rainfall or snowmelt, or a combination of rainfall and snowmelt producing at any location in a river, creek, stream or watercourse a peak flow that has a probability of occurrence of one per cent during any given year.

3. The 100 year flood level means the peak instantaneous still water level plus an allowance for wave uprush and other water-related hazards that has a probability of occurrence of one per cent during any given year.

Made by:

HAMILTON REGION CONSERVATION AUTHORITY:

C. Firth-Eagland.....

Chris Firth-Eagland ^{Signature}

Chairman.....

Please Print Name and Title

Bruce Duneath.....

Signature

Bruce Duneath.....

Please Print Name and Title

GENERAL MANAGER/CMA

April 26/06
Date made: *Meg 05/06*

I certify that I have approved this Regulation.

[Signature]
.....
Minister of Natural Resources

Date approved:

APPENDIX C – Determination of Regulation Limits

INTRODUCTION

The following pages provide detailed information on how the Authority determined the Regulation limits for the HCA Development, Interference with Wetlands and Alterations with Shorelines and Watercourses Regulation 161/06. For information regarding determination of Regulation limits, the reader should contact Authority staff for amendments, revisions, or updates thereto.

HAMILTON REGION
CONSERVATION AUTHORITY

Reference Manual

DETERMINATION OF REGULATION LIMITS

OCTOBER 2005

HAMILTON REGION CONSERVATION AUTHORITY
DETERMINATION OF REGULATION LIMITS

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1.0 Introduction

The Hamilton Region Conservation Authority (HCA) is currently developing new Regulation Limits for the riverine, shoreline, and wetland systems in the HCA watershed, based on the new Generic Regulation made under Section 28 (1) of the *Conservation Authorities Act*. These limits will be used to map all hazard areas within the watershed, and will ultimately form the basis for Regulation for Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses (Ontario Regulation 97/04).

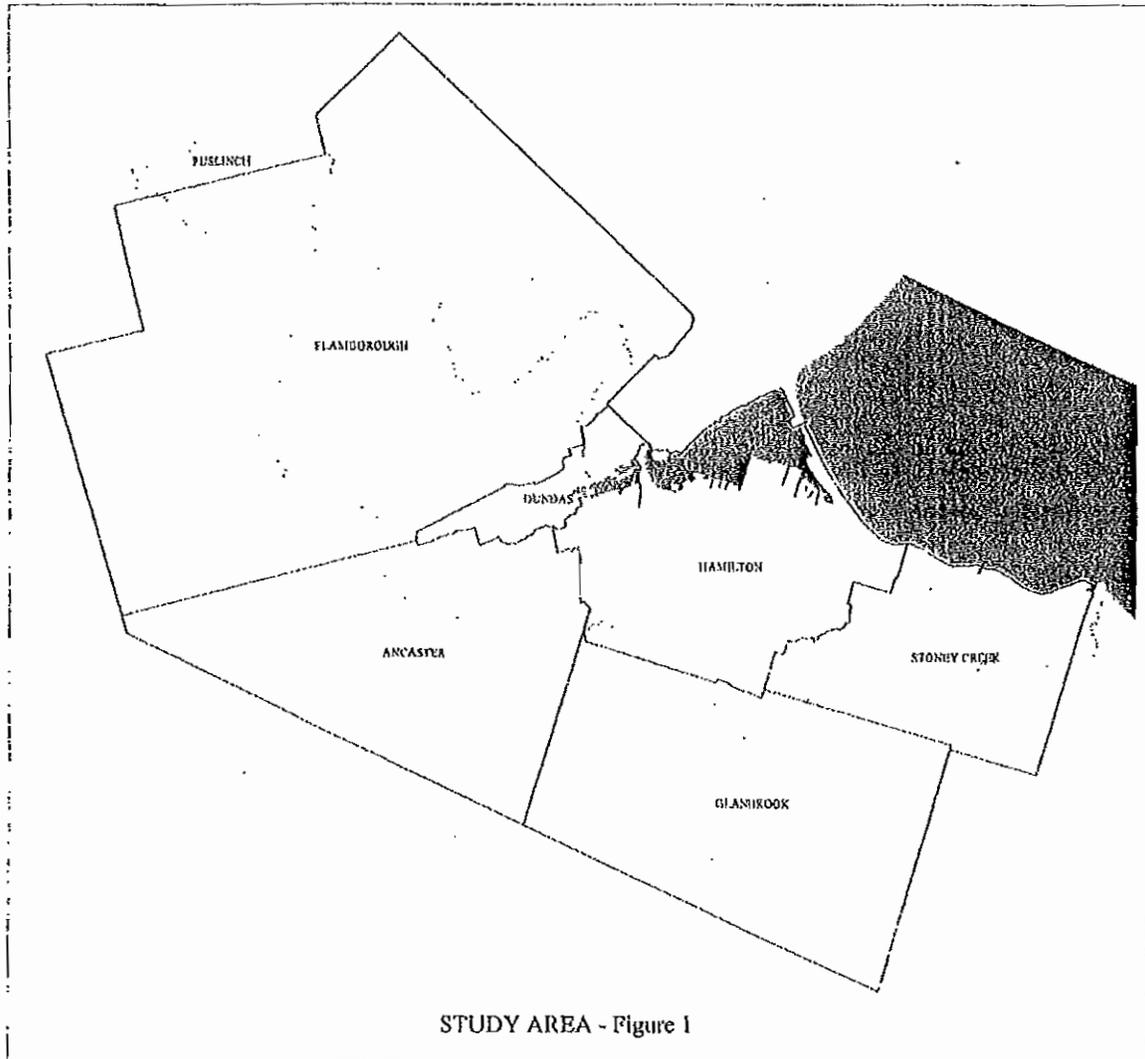
2.0 General Objectives

The Hamilton Region Conservation Authority has established objectives which will form the basis of the decision making process associated with regulation implementation. These objectives include, but are not necessarily limited to, an Authority program designed to:

- prevent loss of life,
- minimize property damage and social disruption,
- reduce public and private expenditure for emergency operation, evacuation and restoration,
- minimize the hazards and unnecessary development of riverine floodplains and flood and erosion susceptible shoreline areas which in future years may require expensive protection measures,
- regulate works and development which, singularly or collectively, may reduce riverine channel capacities to pass flood flows resulting in increased flood levels, and creating potential danger to upstream and downstream landowners,
- control filling and/or draining of natural storage areas such as wetlands,
- encourage the conservation of land through the control of construction and placement of fill on existing or potentially unstable valley slopes or shoreline bluffs,
- reduce soil erosion and sedimentation from development activity,
- control pollution or other degradation of existing and potential groundwater aquifer(s) and aquifer recharge areas, created by fill activities, and,
- control water pollution, sedimentation, and potential nuisances due to floating objects and debris.

3.0 Study Area

The study area (Figure 1) is comprised of the area within the Hamilton Region Conservation Authority's jurisdiction, within the City of Hamilton and the County of Wellington. More specifically, those areas located within the former City of Stoney Creek, the former Town of Ancaster, the former Town of Dundas, the former Township of Plamborough and the former City of Hamilton in the new amalgamated City of Hamilton as well as the Town of Puslinch in the County of Wellington.



4.0 Riverine Hazards

Riverine Hazard Limits address the potential hazards resulting from the proximity of development to a river, creek, or stream. The hazards addressed include flooding and erosion.

The following sections outline the methods that have been implemented to set the boundaries within which development is potentially susceptible to hazards.

4.1 RIVERINE FLOODING HAZARD LIMIT

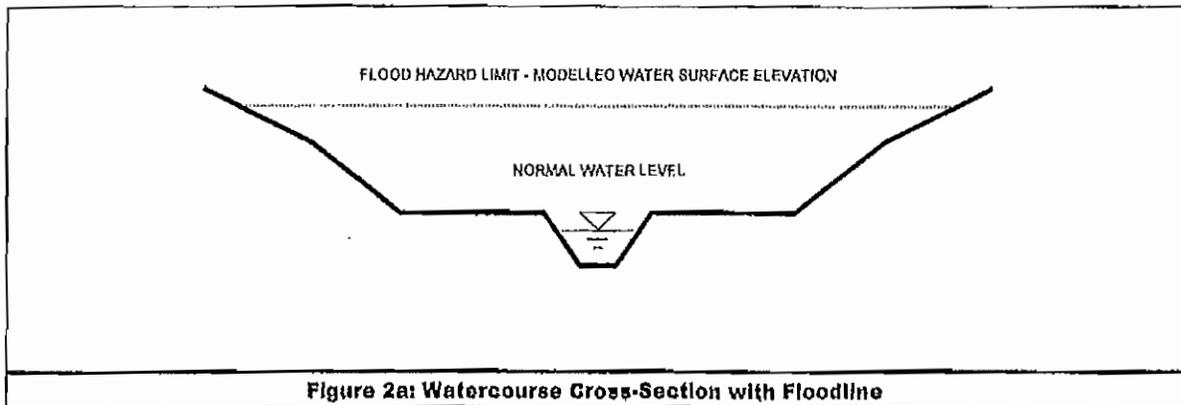
The *Riverine Flooding Hazard Limit*, is generally based on the greater of the Hurricane Hazel storm event (the Regional Storm) or the 100-Year return period storm. Flood lines for the Regional Storm are calculated using precipitation data from Hurricane Hazel (1954), while the 100-Year floodlines are based on a storm that statistically occurs once every one hundred years. For HCA's watershed, the Regional storm was assumed to produce the greater floodline, and the majority of watersheds are floodplain mapped for the Regional storm as shown on Table 1. The City of Stoney Creek numbered watersheds are regulated solely on the 100 year storm flood limit. These watersheds are regulated on the 100-Year return period storm due to the fact that the municipality (former City of Stoney Creek, now new City of Hamilton) undertook technical assessments and made a request to the province to use the 100 year floodline as the regulatory standard for these watercourses.

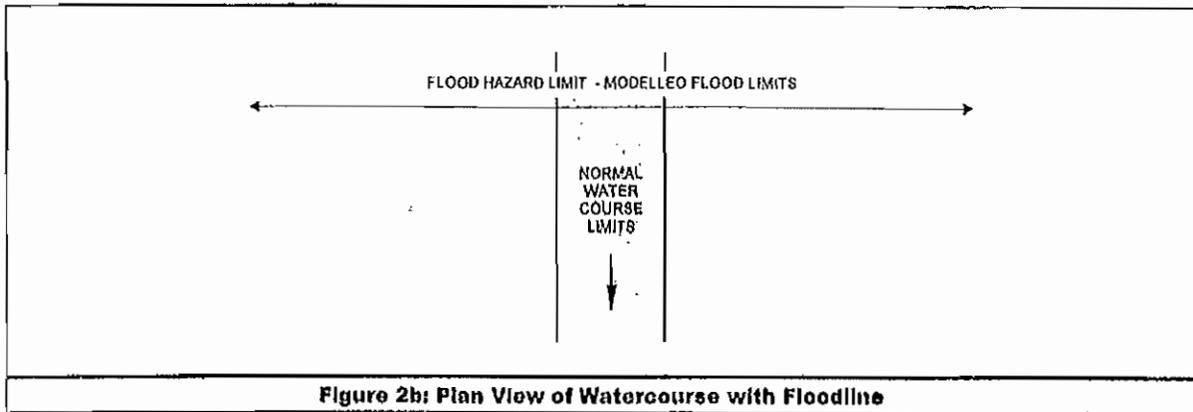
The municipality of the former Town of Dundas (now, new City of Hamilton) undertook a technical assessment and Official Plan consolidation in June of 1999, with a formal request to the province to designate lands in the historically developed Town of Dundas as Special Policy Area (SPA). This action had the effect of creating four designated SPA's in the former Town of Dundas. As a result, these lands are managed as two zone areas, using the Regional Storm flood line as the extent of the floodfringe and the 100 year storm floodline as the extent of the floodway.

Table 1 displays the watersheds within the HCA watershed, and the standards for their respective floodlines. Floodlines from the various floodplain mapping sources have been digitized for use in determining the Riverine Flooding Hazard Limit throughout HCA jurisdiction.

Table 1:		
Watershed	Floodline Source	Storm Standard
Ancaster/Sulphur Creek	Can-Ontario FDRP – HCA – Ancaster/Sulphur Creek, R.V. Anderson Associates Limited, 1990	Regional
Stoney Creek/Battlefield Creek and Stoney Creek Numbered Watercourses	Can-Ontario FDRP – HOA – Stoney Creek Watercourses - Phillips Planning & Engineering Limited, 1989	100 Year
Upper Spencer Creek	Spencer Creek Floodline Mapping Study – North of Christie Dam, C.C. Parker & Associates, 1977	Regional
Mid Spencer Creek	Spencer Creek Floodline Mapping Study – Downstream of Christie Dam, Township of Flamborough, Dillon Limited, 1977	Regional
Lower Spencer Creek	Lower Spencer Creek Floodline Mapping Study, C.C. Parker & Associates, 1978	Regional
Borer's Creek	Borer's Creek Floodline Mapping Study, M.M. Dillon Limited, 1978	Regional
Ann Street Creek	Ann Street Creek Flood and Erosion Control Project, Town of Dundas, W.L. Sears & Associates Limited, 1982	Regional
Red Hill Creek	Red Hill Creek Valley Expressway Project and Detailed Design Contract No. 7, Phillips Planning and Engineering Limited, 2004	Regional
Lower Spencer Creek	Lower Spencer Creek Urban Design Study, Paragon Engineering Limited, 1992	Dundas SPA's

The floodline is determined through a hydrologic simulation of the specified storm centered over the watershed in question, and a hydraulic model that analyses the effect of conveying the storm runoff over the landscape. Figure 2 displays the application of the modelling in delineating the floodline.





4.2 RIVERINE EROSION HAZARD LIMIT - CONFINED SYSTEMS

The Erosion Hazard Limit for a riverine system consists of the valley Top of Slope and where necessary, the Toe Erosion Allowance, and the Stable Slope Allowance for a confined riverine system. A confined system is identified by a clearly visible valley (notable break in slope) shown on the mapping used within this project.

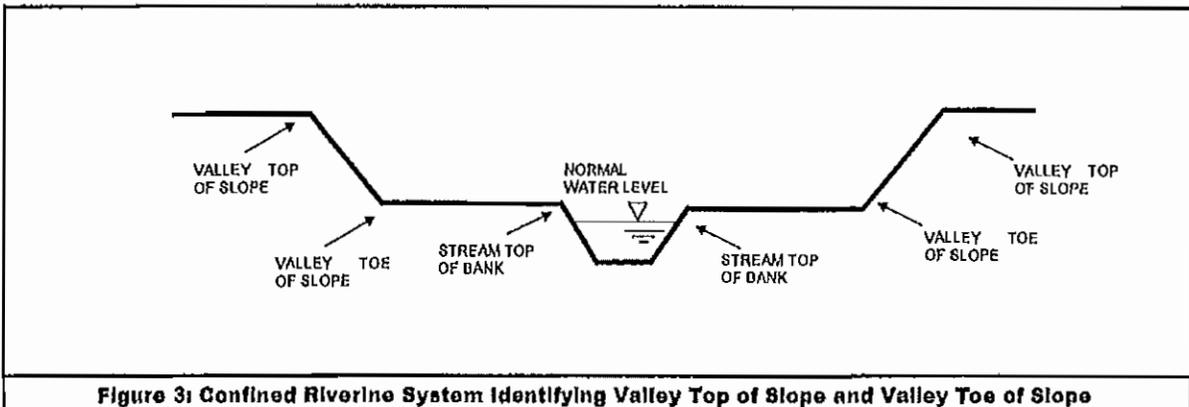
The following table details the type of digital mapping and the number and scale of Ontario Base Mapping used to delineate the Erosion Hazard Limits for riverine systems.

Table 2: Base Mapping used for Riverine Erosion Hazard Limits

MUNICIPALITY	SCALE	REVISION DATE	NUMBER OF MAPS
City of Hamilton	City Stream Network Digital Mapping (1:1 - 3 cm horizontal accuracy)	1998	n/a
County of Wellington	1:10,000 Ontario Base Maps	1980	24

4.2.1 Valley Top of Slope - Confined Riverine Systems

The Valley Top of Slope is the break in slope point between the valley side slope and the tableland, and should be discernable from the contour line information.



4.2.2 Stream Erosion - Confined Riverline Systems

Stream bank erosion is an important cause of valley slope instability and is ultimately responsible for the presence of a valley. Stream erosion directly at the toe of a valley slope can steepen and undercut the slope, leading to the eventual failure of the bank. The *Toe Erosion Allowance* has been implemented to buffer development from the hazardous effects of toe erosion, and also to buffer the natural river processes from the influences of development. This allowance is based on a minimum distance of 15 metres between the edge of a river system, and the toe of its confining valley wall. Figure 4 shows the application of the Toe Erosion Allowance.

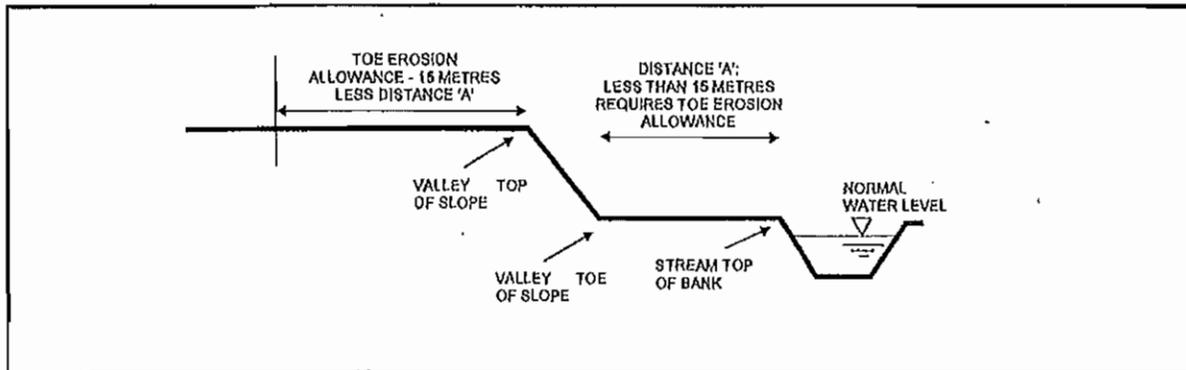


Figure 4a: Watercourse Cross-Section with Toe Erosion Allowance

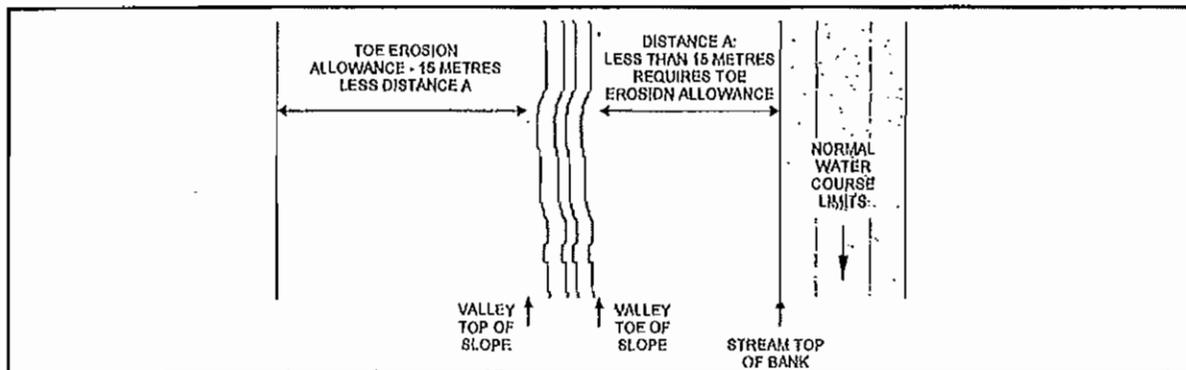


Figure 4b: Plan View of Watercourse with Toe Erosion Allowance

4.2.3 Slope Stability - Confined Riverline Systems

Slopes are also naturally subject to movement and failure. The *Stable Slope Allowance* has been implemented to buffer development from the hazards of slope instability, and also to prevent the influence of development on the rate of slope movement. This allowance is based on an assumed stable slope gradient of 3 horizontal units to 1 vertical unit (3:1). For slopes at steeper gradients, the allowance is equal to the distance between the actual valley top of slope and the point at which a slope at a 3:1 gradient, rising from the same toe position, would intersect the ground surface. Figure 5 shows the application of the Stable Slope Allowance.

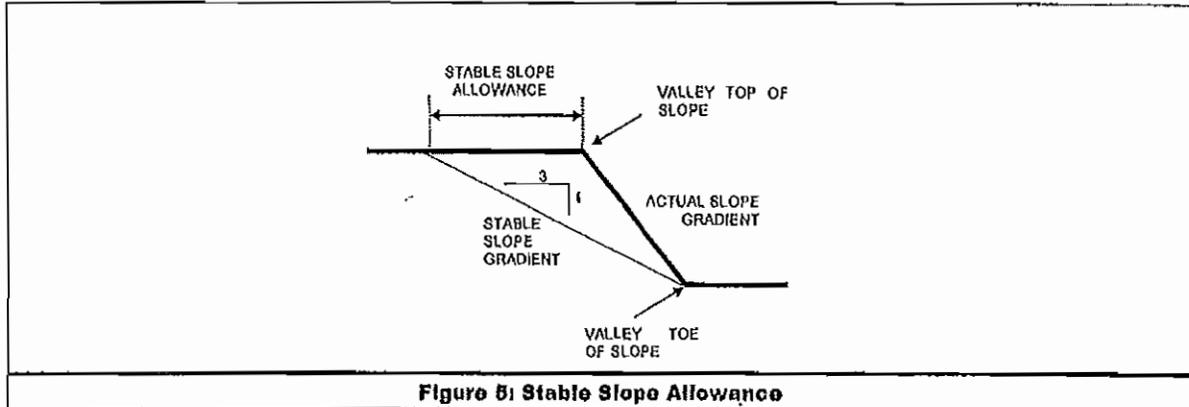


Figure 5: Stable Slope Allowance

4.3 RIVERINE EROSION HAZARD LIMIT - UNCONFINED SYSTEMS

The Erosion Hazard Limit for unconfined systems consists of the meander belt allowance. Unconfined systems occur where a watercourse is not contained within a clearly visible valley section.

4.3.1 Meander Belt - Unconfined Systems

In unconfined systems, the watercourse is not contained within a visible valley, and the flow of water is free to shift across the shallower land. Although toe erosion and slope stability are not deemed potential hazards, consideration for the meandering tendencies of the system must be provided. The *Meander Belt Allowance* provides a limit to development within the areas where the river system is likely to shift. This allowance is based on twenty (20) times the bankfull channel width, where the bankfull channel width is measured at the widest riffle section of the reach. A riffle is a section of shallow rapids where the water surface is broken by small waves. The meander belt is centred over a meander belt axis that connects the riffle sections of the stream.

The meander belt has been applied for many of the 1st and 2nd order streams in the watershed headwaters, where there is no apparent valley, streams are small, and sinuosity is low. In these situations, the stream width is estimated as 1.5 metres, and the meander belt is created as an offset from the watercourse feature on the base map. This process eliminates the need to establish a meander belt axis, and provides a reasonable meander belt allowance.

Where on-line ponds are located in unconfined systems, the meander belt width is increased by the width of the open water in the pond.

Figure 6 shows a typical application of the Meander Belt Allowance.

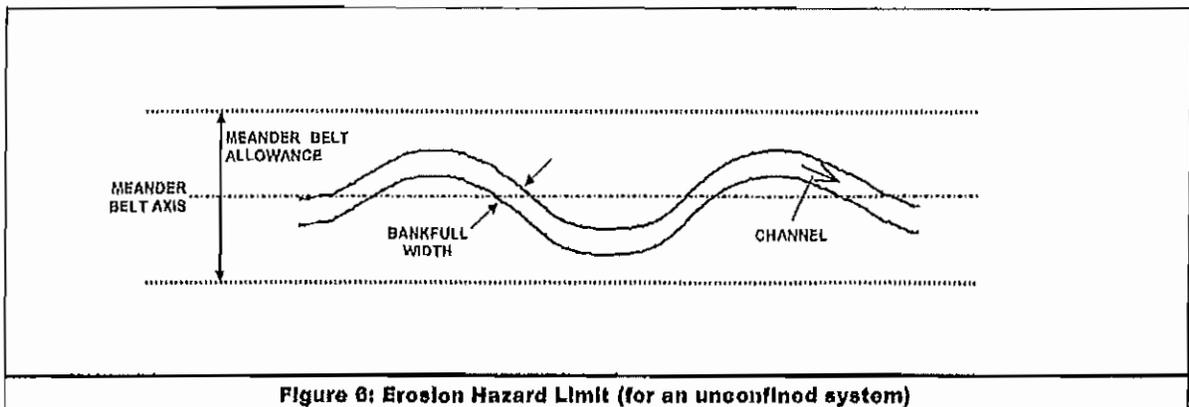


Figure 6: Erosion Hazard Limit (for an unconfined system)

4.4 RIVERINE HAZARD LIMIT

The Erosion Hazard Limit (developed for either an unconfined or confined system) and the Flood Hazard Limit are applied in combination to every riverine system in the watershed. The greatest extent of these two limits is the Riverine Hazard Limit.

5.0 Shoreline Hazards

The coast or shoreline refers to the furthest landward limit bordering a large body of water. For the HCA watershed, Lake Ontario and Hamilton Harbour form the shorelines under this criteria.

The Flooding and Erosion Hazard Limits for the shorelines of the Great Lakes have been established in order to regulate development in areas susceptible to periodic flooding and/or erosion concerns.

In all cases, the Shoreline Hazard Limit is taken to be the greater of the Flooding and Erosion Hazard Limits. This section briefly outlines the methods used to define these Shoreline Flooding and Erosion Hazard Limits. The Shoreline Hazard Limit extends lakeward to the Conservation Authority area of jurisdiction, which is 4 miles into Lake Ontario and the entire bed of the Hamilton Harbour according to our Order-in-Council (#2881/72) dated September 13, 1972.

5.1 SHORELINE FLOODING HAZARDS

The Flooding Hazard Limit is based on the 100 Year Flood Limit, and reflects the runup levels, which would be expected when the 100 year extreme water level combines with the 100 year storm event.

The 100 year extreme water levels include static water level and storm surge components and were obtained from the Canada-Ontario Flood Damage Reduction Studies from the Ministry of Natural Resources. The 100 year extreme water level for Lake Ontario in our jurisdictional area is 76.0 metres IGLD. This extreme water level is also applied to development along the shorelines of Hamilton Harbour.

This extreme water level has been mapped by the HCA through a Lake Ontario Waterfront Study, Stoney Creek dated March 1980 and prepared by F.J. Reinders and Associates Limited and Conroy Dowson Planning Consultants Inc.

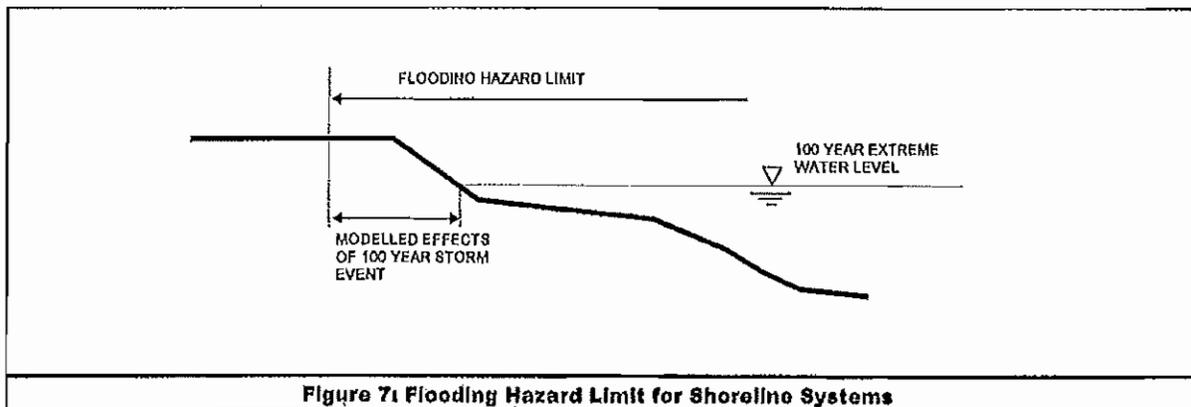


Figure 7: Flooding Hazard Limit for Shoreline Systems

5.2 SHORELINE EROSION HAZARD

Shoreline erosion is an important cause of slope instability, and is a potential hazard to Lake Ontario waterfront development. The *Erosion Hazard Limit* for Lake Ontario shoreline systems is applied to buffer development from the hazardous effects of shoreline erosion, and also to buffer the natural coastal processes from the influences of development.

2.1 Bluffs

The Erosion Hazard Limit for bluffs was based on the following

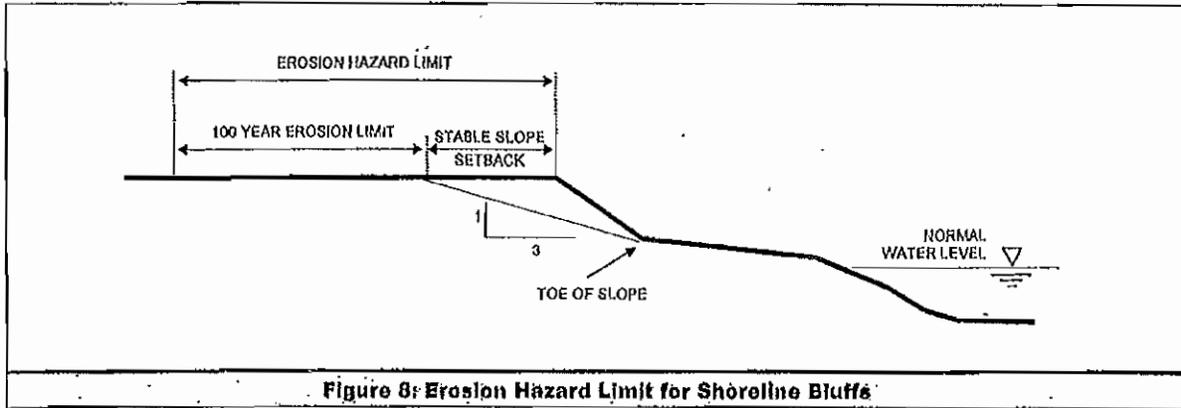


Figure 8: Erosion Hazard Limit for Shoreline Bluffs

5.2.2 Dynamic Beaches

Dynamic Beaches must be analyzed differently from bluffs due to their dynamic nature - beach erosion is also reversible.

The Erosion Hazard Limit is defined as the limit of beach erosion, Δs , plus a 30 metre dynamic beach allowance. Figure 9 displays the application of the Erosion Hazard Limit for beaches.

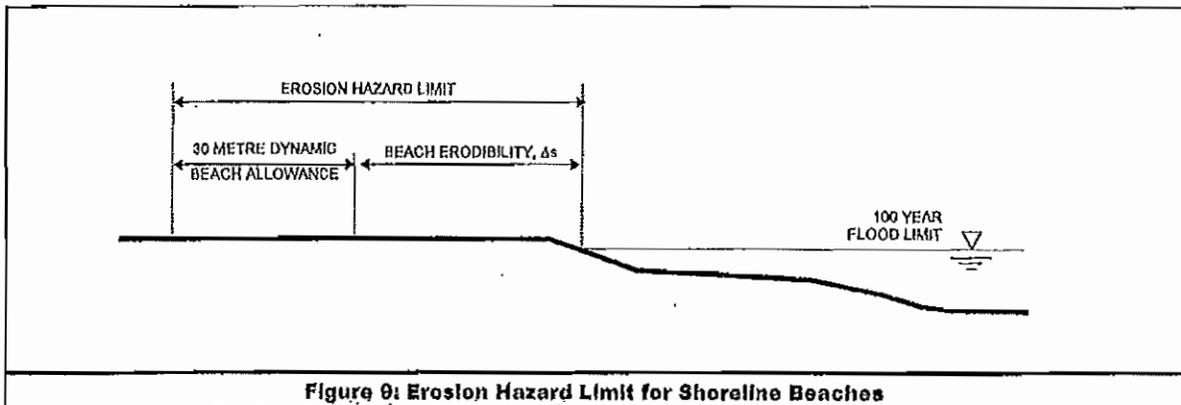


Figure 9: Erosion Hazard Limit for Shoreline Beaches

It should be noted that, although the Waterfront Lands Limit is typically taken as the greater of the Flooding and Erosion Hazard Limits, the Erosion Hazard Limit for a beach is based on the Flooding Hazard Limit. As a result, the Waterfront Lands Limit for a beach may be defined as the sum of the Flooding and Erosion Hazard Limits.

5.3 SHORELINE HAZARD LIMIT

The Erosion Hazard Limit and the Flood Hazard Limit are applied in combination to every shoreline system in the watershed. The greatest extent of these two limits is the Shoreline Hazard Limit. It should be noted that the shoreline hazard limit also extends lakeward to the furthest offshore extent of the Authority's jurisdiction.

6.0 – Unstable Bedrock Hazards

Unstable bedrock formations include Karst formations. Karst formations are extremely variable in nature and can include such surface features as sink holes, disappearing streams and pockmarked topography. These formations can cause hazards to development and to human life and property.

6.1 ERAMOSA KARST HAZARD LIMIT

The area in the former City of Stoney Creek (now, new City of Hamilton) bounded by Highland Road, Second Road West, Rymal Road and Upper Mount Albion Road, as well as the surrounding area, is referred to as the Eramosa Karst. It has been the subject of a geomorphology and hydrology study in 1999 and 2000 undertaken through the Ontario Ministry of Natural Resources. And, this area has been designated as an Area of Natural and Scientific Interest in 2003, as a result of the MNR commissioned report entitled "Earth and Science Inventory and Evaluation of the Eramosa Karst Areas of Natural and Scientific Interest", dated April 2003.

The above-noted report has identified an ANSI area of 195.7 hectares of land and has further identified three key areas within the ANSI - Core Area, Developed Area and Feeder Area.

- i) Core Area - an undeveloped area with a high density of significant karst features.
- ii) Developed Area - an urban area where the karst features have been impacted by development, but the remaining karst features are significant.
- iii) Feeder Area - an area encompassing the drainage catchments for several streams that flow into the Core Area. These streams all sink underground in the Core Area.

Although the MNR ANSI designation provides for protection of the natural heritage value of this formation, development in the Eramosa Karst area has historically provided challenges to natural hazard management in this rapidly growing area of the City of Hamilton. The entire Eramosa Karst area as identified on Figure 2 of the above-noted report has been included in the proposed area of regulation. A copy of the entire MNR ANSI report is included in Appendix A of this document.

7.0 Wetlands and Wetland Complexes

7.1 WETLANDS

Wetlands play an important role in the hydrology of watersheds, and therefore are also important features in floodplain management. From a natural hazard perspective, wetlands retain surface water and may release stored water to streams over periods of time. The attenuation of drainage in wetlands is a function that will influence the shaping of stormwater flow and flooding.

Because of the role of wetlands in floodplain management, the intent of mapping and regulating these features is to prevent effects to natural flood conditions through the loss of wetlands. It should be noted that compliance with this regulation does not exempt applicants from having regard for local by-laws, Municipal and Regional Official Plans, or the Provincial Policy Statements.

7.1.1 Wetland Mapping

Wetland mapping consists of evaluated and unevaluated wetlands, derived from a combination of information from two sources.

For the evaluated wetland component, boundaries from OMNR Land Information Subscription (LIDS) dataset are utilized. The age of wetland boundaries within this dataset is varied, ranging from mid 1980's through to present. The evaluated wetlands from OMNR are "open files", meaning that boundaries can be adjusted based on new information from time to time.

The unevaluated wetland component is derived from HCA's jurisdiction-wide ELC community series mapping. ELC mapping was compiled from 2002 georeferenced ortho photography (colour digital air photos), digitized on screen at a scale of 1:3000. This mapping was completed in 2004 by trained staff. GIS software is used to filter, by query, all vegetation units classified as "wetland system" from the overall ELC mapping. In keeping with the methodology adopted from ELC community series mapping, no wetland with an area of less than 0.5 ha would be included as part of the regulation mapping, except in special circumstances (i.e. <0.5 ha wetland in close proximity to larger wetland feature).

The MNR evaluated wetland boundaries and HCA ELC wetland boundaries were then overlain. In order to reconcile differences between OMNR and HCA data, polygons were reviewed in conjunction with recent (2002 digital imagery) air photos. The Guelph District Office of the MNR reviewed the mapping differences and provided HCA with corrections on December 14th, 2005 (see attached e-mail and mapping corrections). The two layers would then be merged to form the Regulated Wetlands.

7.1.2 Wetland Complexes

For the purpose of the regulation, wetland complex boundaries are not used. Wetlands will be protected from indirect impacts through the establishment of an "other area" around all wetlands as described in section 7.2.

8.0 Allowances, Other Areas, and Regulation Limits

8.1 ALLOWANCES

The Generic Regulation describes the use of an allowance that may be applied to all riverine and shoreline Hazard Limits. The allowance is for the purpose of maintaining sufficient access for emergencies, maintenance, and construction activities. This allowance is analogous to a factor of safety, providing protection against unforeseen conditions that may adversely affect the land adjacent to a natural hazard area. After combining the Shoreline Hazard Limit and Riverine Hazard Limit, and selecting the greater limit where the two Hazard Limits overlap, a 15 metre allowance is applied to the Hazard Limit.

8.1.1 OTHER AREAS

Wetlands can be affected by development where the development is outside of the wetland boundary but within the adjacent lands. These lands are known as *Areas of Interference*. The width of an Area of Interference could be different for each application, and requires site by site assessment. Provincially Significant Wetlands are afforded a 120 metre setback within which development can only proceed if an Environmental Impact Statement demonstrates that the development will have no negative impacts on the natural features or on their ecological functions, as stipulated under the Provincial Policy Statement issued under the Planning Act of the Province of Ontario.

Guidance and recommendations from the Technical/Peer Review Committee for the Generic Regulation has recommended that CA's utilize an allowance area ("Other Area") of 120 metres surrounding Provincially Significant Wetlands (PSW's) and between 30 metres to 120 metres surrounding wetlands, to establish the regulatory limit, provided a reduction from 120 metres has justification. The HCA has considered these recommendations and has undertaken analysis and consultation with our municipal partners, the Hamilton Halton Homebuilders Association (HHHBA) and the public regarding this matter. Table 3 provides some land area and landowner information that has been considered by the Conservation Authority with respect to regulated areas and wetland allowance, in particular.

The attached demonstrates certain facts. Currently, under Ontario Regulation 151/90, the HCA regulates a total of 9,900 hectares of the 48,000 hectares of land in our jurisdiction (20%). Under the generic regulation with its increase in areas previously not regulated by HCA (Great Lakes shorelines, wetlands in Town of Puslinch/County of Wellington, Bramosa Karst area, areas of allowance - Other Areas - 15 metres surrounding flood and erosion hazards and 30 metres surrounding wetland areas), the HCA could be regulating 13,700 hectares of the 48,000 hectares of land in our jurisdiction (29%). This percentage increase may not seem like a large increase in regulated area. However, at a Conservation Authority with one (1) full-time Regulations Officer on staff that can create great turmoil for a Conservation Authority. Although policies developed to implement the generic regulation can certainly streamline workload, a definite increase in general inquiries, permits and violations under the generic regulation will result. With municipalities looking to minimize budgetary increases and the development community and individual citizens already concerned about excessive user pay fee increases, we believe that this increase will financially burden our Conservation Authority and our watershed communities to implement the 'minimum' standard offered to CA's.

Table 3 also indicates that should the HCA utilize an area of 120 metres of interference around PSW's, the HCA would be regulating a total of 15,500 hectares of the 48,000 hectares of land in our jurisdiction (33%). This amount of land area represents an increase of 2,300 hectares covering 630 properties.

Table 3 - Proposed Regulated Area under Ontario Reg 97/04 (using 30 metre area of wetland interference) Comparison with 120 metre area of wetland interference

Municipality	Area in ECA (ha)	Regulated (Total) (ha)	% of Municipality	Properties	120m Allowance Additional (ha)	Total Area		% of Municipality		Additional Properties
						To Be Regulated	To Be Under Regulation	To Be Under Regulation	To Be Under Regulation	
Georgina	19,134	1,156	6.04	53	221.88	861.09	44.9	12		
Rushford	19,134	639.24	3.34	159	1433.37	7761.67	44.7	107		
Whitby	19,134	1,830.02	9.56	241	104.00	1,134.02	26.5	289		
Whitby	19,134	728.53	3.81	373	44.74	771.27	39.6	105		
Charnbrook	19,134	1,595.2	8.34	225	37.65	1,523.30	21.9	4		
Stoney Creek	19,134	1,488.65	7.78	214	40.92	3,394.01	23.9	113		
Hamilton	19,134	3,353.03	17.52	236	1,882.56	15,445.36	32.5	630		
TOTAL		13,713.04	71.68	2,833	1,882.56	15,445.36	32.5	630		

Current Regulated Area in ECA Jurisdiction - 9900 hectares*

Table 3 also illustrates that this increased area of regulation is affecting our rural and agricultural communities, communities which are also located within the provincial Greenbelt area. For example, utilizing a 120 metre allowance around PSW's in the Town of Puslinch, 45 % of that municipality would be subject to the provisions of the generic regulation, up 12% from what HCA is proposing using the minimum criteria.

The HCA also notes the County of Wellington and the Town of Puslinch underwent revisions to the Town's Natural Environment zones in 2004 to bring them into conformity with Provincial Policies, established under the Planning Act of Ontario and the updated Official Plan. As a result, the County and the Town zoned all wetlands (PSW's, included) identified through their Greenland designation in the County Official Plan as natural environment zone and further stipulated through amendment to the text of the Comprehensive Zoning By-law that all development within 30 metres of a natural environment zone required approval from the municipality for very specific structures and limited development.

The above-noted approach by the County/Town was approved by the Provincial Ministry of Municipal Affairs and County and Town staff is very supportive of the HCA's approach for identifying other areas surrounding wetlands. The Provincial Ministry of Municipal Affairs has recognized the difference between a 'planning policy' in an Official Plan (a comprehensive land use planning document) to deal with larger developments that can harmfully impact both the features and functions of our vital wetland resources, and a 'zoning provision' in a Zoning By-Law (an area or site specific regulatory document) which deals with smaller scale, individual development applications/proposals. The HCA, therefore, submits that ~~the Ministry of~~ the Ministry of Municipal Affairs' sister Ministry (the Ministry of Natural Resources) would also recognize this very different type of development control and natural resource management and protection situation (i.e. regulation vs. provincial planning policy).

In light of the above and in keeping with the spirit and recommendations of the provincial Red Tape Reduction Commission, the HCA has chosen, through the endorsement of our Water Management & Environmental Impact Advisory Board (which includes citizen members) and our Full Authority Board of Directors (report and resolutions included in Section 10) a., b. and c. of this Reference Manual), to use the Technical/Peer Review Committee's recommendation of a minimum 30 metre other area allowance surrounding wetland areas. We also submit that the information in this Reference Manual and all our consultations throughout this exercise justify the use of this minimum standard to delineate areas of potential wetland interference in the Hamilton Region Conservation Authority's area of jurisdiction.

8.2 Regulation Limits

The Regulation Limit is mapped as the greatest extent of the:

- Riverine Hazard Limit, and
- Shoreline Hazard Limit, and
- Eramosa Karst (hazardous unstable bedrock area), and
- a 15 metre Allowance on all Riverline and Shoreline Hazards, and
- wetland boundary, and
- areas of interference (30 metres) adjacent to all wetlands.

The greatest extent of all features identified above is the Regulation Limit provided on the HCA Regulation Limit mapping.

9.0 Definitions

The following definitions are intended to provide a clearer understanding of the basis by which these terms of reference have been written. All definitions have been obtained through accepted sources, as outlined in Section 8.0 – References:

Accepted engineering principles:

The current coastal, geotechnical, and hydraulic engineering principles, methods, and procedures that would be judged by a peer group of qualified engineers (by virtue of their training and experience) as being reasonable for the scale and type of project being considered, the sensitivity of the location, and the potential threats to life and property.

Access (ingress/egress):

Standards and procedures currently applied in engineering practice associated with providing safe passage for vehicles and people to and from a shoreline or river-side property during an emergency situation as a result of flooding, other water related hazards, the failure of floodproofing and/or protection works, and/or erosion that have been reviewed and approved by the Conservation Authority and/or the Ministry of Natural Resources.

Bankfull discharge:

The formative flow of water that characterizes the morphology of a fluvial channel. In a single channel stream, "bankfull" is the discharge, which just fills the channel without flowing onto the floodplain.

Confined System:

A riverine system where the physical presence of a valley corridor containing the system is visibly discernible. Also "well-defined system".

Development:

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.

Drainage area:

For a point, the area that contributes runoff to that point.

Fill:

Any material used or capable of being used to raise, lower, or in any way affect the contours of the ground, whether on a permanent or temporary basis, and whether it originated on the site or elsewhere.

Hazardous land:

Hazardous land means land that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches, or unstable soil or bedrock .

Protection works:

Refers to structural or non-structural works, which are intended to appropriately address damages caused by flooding, erosion, and/or other water related hazards.

Slope crest:

The highest point on a slope at which the gradient becomes shallow enough to be used for access. Also "top of slope".

Slope toe:

The lowest point on a slope, where the surface gradient changes from relatively shallow to relatively steep.

Unconfined system:

A river or stream system where there is no discernible valley slope or bank that can be detected from the surrounding landscape. Also "ill-defined system".

Watercourse:

Watercourse means an identifiable depression in the ground in which a flow of water regularly or continuously occurs.

Wetland:

Wetland means land that

- a) is seasonally or permanently covered by shallow water, or has a water table close to or at its surface;
- b) directly contributes to the hydrological 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)

10.0 References

1. Buck, Marcus J., Worthington, Stephen R.H., Ford, Derek C.; *Earth Science Inventory and Evaluation of the Eramosa Karst Area of Natural and Scientific Interest*; Ontario Ministry of Natural Resources, April 2003.
2. *Conservation Authorities Act* (Revised Statutes of Ontario, 1990, Chapter C.27, as amended, Queens Printer March 29, 1999).
3. Conservation Ontario; *Guidelines for Developing Schedules of Regulated Areas*; August 2003.
4. F.J. Reinders and Associates Limited and Conroy Dowson Planning Consultants Inc., *Stoney Creek Waterfront Study*, March 1980.
5. Lee, H., W. Bakowsky, P. Uhlig, S. McMurray, J. Riley, J. Bowles, M. Puddister; *Reference Manual for Land Classification in Southern Ontario*; Ontario Ministry of Natural Resources Science and Technology Transfer Unit; 1997.
6. Ontario Ministry of Natural Resources; *Natural Hazards Training Manual, Provincial Policy Statement, Public Health and Safety Policies 3.1, Version 1.0*; 1997.
7. Ontario Ministry of Natural Resources; *Natural Heritage Training Manual, Provincial Policy Statement, Policies 2.1, Version 1.0*, 1997.

Appendix A: Determination of Regulation Limits

Regulation Limits are the result of several components, each of which addresses a specific hazard. These include riverine flooding hazard limits, riverine erosion hazard limits, shoreline flooding limits, shoreline erosion limits, Eramosa Karst unstable bedrock hazard limits, wetlands limits, allowances, and "other areas". Each of these components are identified and defined individually. The final Regulation Limit for each system is taken as the greater of the applicable hazard limits. The following identifies the steps taken by HCA staff to develop the regulation mapping:

1) Riverine Systems

- a. Identify the valley Top-of-Slope with a GREEN line. The Top-of-Slope is the break in slope point between the valley side slope and the tableland, and should be discernable from the contour line information. In agricultural area, the limit of tree line or fence lines is also indicators of the Top-of-Slope. Where a Top-of-Slope cannot be discerned (unconfined valley) proceed to step e).
- b. Identify the valley Toe-of-Slope with an ORANGE line. The Toe-of-Slope is the break in slope point between the valley floor and the valley side slope, and should be discernable from the contour line information.
- c. Identify portions of steep valley slope. A greater contour density can identify steep slopes. At these sites, calculate the slope from the Valley Toe-of-Slope to the Valley Top-of-Slope by measuring the horizontal distance, and calculating the difference between the Valley Toe-of-Slope elevation and the Valley Top-of-Slope elevation. If the ratio of horizontal distance: elevation difference is more steep than 3:1, multiply the elevation difference by 3, and identify a Stable Slope Allowance at this distance from the valley Toe-of-Slope with a RED line.
- d. Identify portions of the valley system where the creek bank is close to the valley side slope (wherever the creek bank and the valley Toe-of-Slope are within 15 metres or less). At these sites, identify a Toe Erosion Allowance with a BLUE line, as the difference between 15 metres and the actual distance between the creek bank and the valley Toe-of-Slope. Apply this allowance beyond the valley Top-of-Bank. If a Stable Slope Allowance has already been calculated at the site, apply the Toe Erosion Allowance beyond the Stable Slope Allowance.
- e. Where a valley Top-of-Slope cannot be discerned, the valley is considered Unconfined, and a Meander Belt is applied in place of the features identified in steps a) through d). The meander belt is drawn as a PURPLE line. Calculate the meander belt width as 20 times the width of the bank full channel. Where the channel width cannot be measured or is not known, assume a minimum width of 1.5 metres. Although the meander belt should be centered on the meander axis, estimation can be made by setting the meander belt as an offset from the watercourse layer.
- f. Select the Riverine Erosion Hazard Limit as the outer most line of all the combined features identified in items a) through e).
- g. Add the Riverine Floodline Hazard Limit. This line has been developed from the floodplain mapping sources listed in Table 1 of this report. The floodline is coloured RED.
- h. Select the Riverine Hazard Limit as the outer most line of the Erosion and Floodline Hazard Limits.

2) Shoreline Systems

- i. Add the 100 year Floodline and Shoreline Erosion Limit from the mapping sources stated in Table 1 of this report. The most landward extent of these lines is the Shoreline Hazard Limit.

3) Combine Shoreline and Riverine Hazard Limits

- j. Overlay the Shoreline and Riverine Hazard limits, and select the outermost limit.
- k. Apply an Allowance of 15 metres outward from the combined Shoreline and Riverine Hazard Limit. This is the portion of the Regulation Limit for Riverine and Shoreline Systems.

4) Wetland Systems

- a. Add the wetland layers from Ministry of Natural Resources digital wetland layers and from HCA BLC mapping queries. Map the Wetland Limit as the greater extent of the two data sources. (Note: the BLC queries will eliminate wetlands less than 0.5 hectares in size).
- b. Apply an "Area of Interference" of 30 metres beyond the Wetland Limit of provincially significant wetlands and all other wetlands.

5) Eramosa Karst Limits

- a. Add the Eramosa Karst layer as extrapolated from the Ministry of Natural Resources mapping (Figure 2 of ANSI Report, dated April 2003)

6) Regulation Limit

Combine the Regulation Limit for Riverine and Shoreline Systems and the "Other Area" Limit. The outer most limit of these features is the HCA Regulation Limit. The Regulation Limit is the greatest extent of:

- o Riverine Hazard Limit, and
- o Shoreline Hazard Limit, and
- o Eramosa Karst (unstable bedrock area), and
- o A 15 metre Allowance on all Riverine and Shoreline Hazards, and
- o Wetland boundary, and
- o "Areas of Interference" within 30 metres of all wetlands

7) Base Mapping.

The HCA Regulation Limit is shown in YELLOW on year 2002 colour, georeferenced ortho photography as provided through the Ministry of Natural Resources. The mapping will be published at a scale of 1:5,000, and will include the Regulation Limit Line, roadway and watercourses, and a full legend. The mapping will be provided on individual sheets no larger than 2'x3'.

Appendix B
WETLAND MAPPING
MNR INPUT AND REVIEW

Menyes, Kathy

From: Menyes, Kathy
Sent: Wednesday, December 14, 2005 1:35 PM
To: 'Timmerman, Art (MNR)'; dmallory@conservationhamilton.ca
Cc: cplosz@hamilton.ca; Laurence, Jean-Christophe (MNR)
Subject: RE: Wetland Boundary Review - Hamilton Conservation Authority

Art -- this is amazing. Thank you very much for taking the time to work on this. We will incorporate the changes and your efforts will assist us in finalizing our generic reg mapping and creating a better base from which to make good resource management decisions.

Thanks again and have a great holiday,

kathy

Katherine J. Menyes

Director, Watershed Planning & Engineering

Hamilton Conservation Authority

838 Mineral Springs Road

Ancaster (Hamilton), Ontario L9G 3L3

Tel - 905-525-2181, Ext. 130

Fax - 905-648-4622

kmenyes@conservationhamilton.ca

Website - www.conservationhamilton.ca

The A.D. Latornell Symposium, Ontario's premier environmental conference is set for Nov 16, 17, 18, 2005. Visit www.latornell.ca for details.

From: Timmerman, Art (MNR) [mailto:art.timmerman@mnr.gov.on.ca]
Sent: Wednesday, December 14, 2005 11:40 AM
To: Menyes, Kathy; Mallory, Doug
Cc: Plosz, Catherine; Laurence, Jean-Christophe (MNR)
Subject: Wetland Boundary Review - Hamilton Conservation Authority

Kathy, I received your digital wetland layer which I believe came from the City of Hamilton. I then compared that layer to our own wetland layer and 2002 digital air photos.

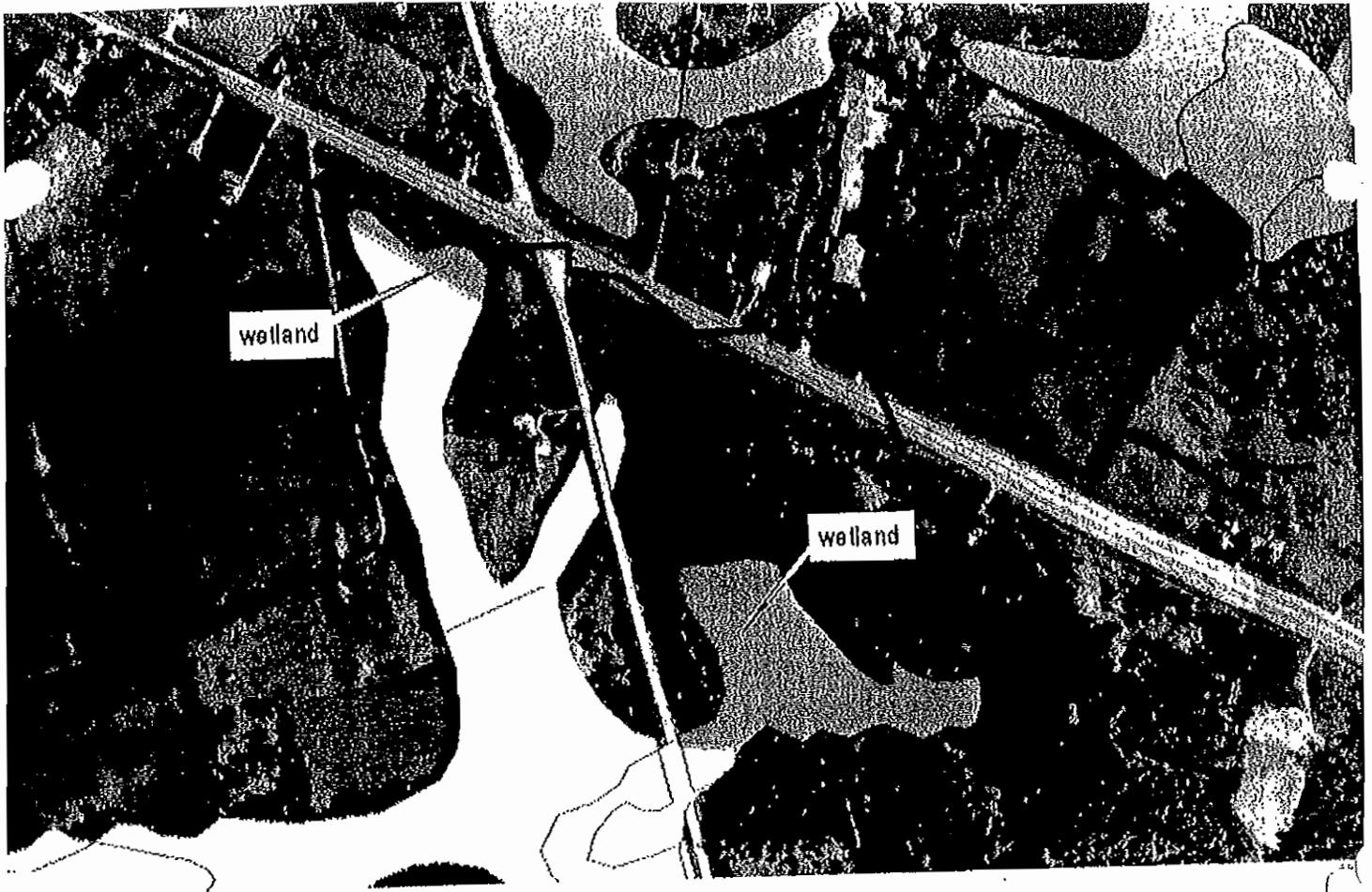
1. The vast majority of the differences in the 2 wetland layers reflect differences in wetland mapping tools and technology. Most of the MNR wetland boundaries are 20 years old and were derived from 1978 black and white summer air photos and perhaps some fieldwork. I would consider the C.A. boundaries to be a more accurate representation of what is actually on the ground.
2. A large number of very small wetland areas are not included in the C.A. layer. Some of these are mapped and classified as "unevaluated" wetland by the OMNR while many others have not been mapped.
3. I have attached 10 jpegs indicating areas where the C.A. layer does not include wetlands that are on the MNR layer and that the MNR knows to be present. Most of these wetlands are identifiable from the 2002 digital air photos. The yellow areas are the Hamilton C.A. wetlands, the purple areas are the current MNR wetlands and the red line is the Conservation Authority boundary. Note that the MNR wetland boundary may not be completely accurate because of the tools available at the time. As well, some of these wetlands may have been altered after they were mapped 20 years ago. The wetland boundaries shown on map 7 were mapped during a site visit and are considered to be accurate. Map 8 shows the Logles Creek-Parkside Drive Wetland that was mapped and evaluated in 2004. Map 10 indicates a wetland polygon in the Tiffany Creek wetland that has been lost to development.

I will send these 10 maps in two separate emails.

()
Art Timmerman
(-)

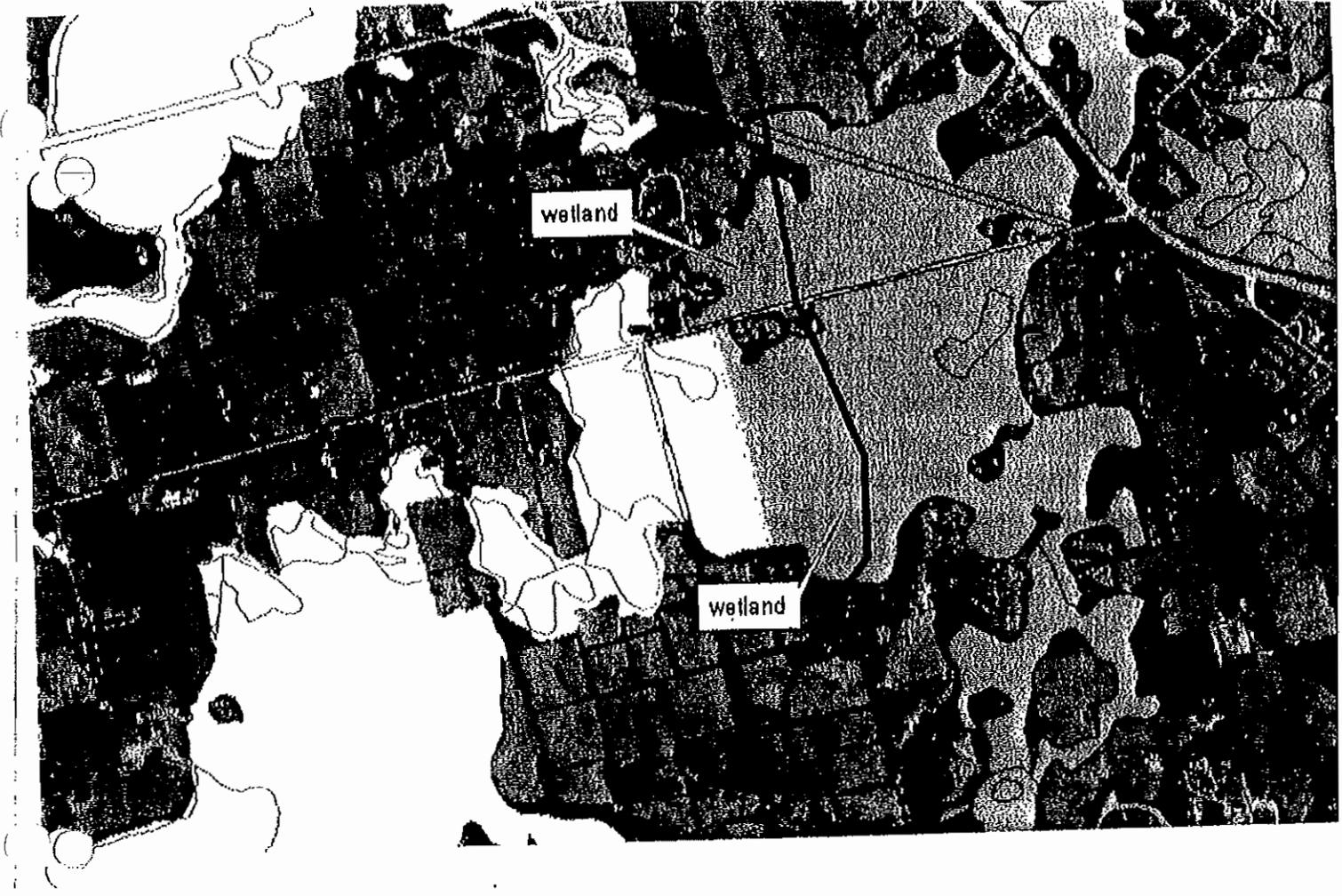
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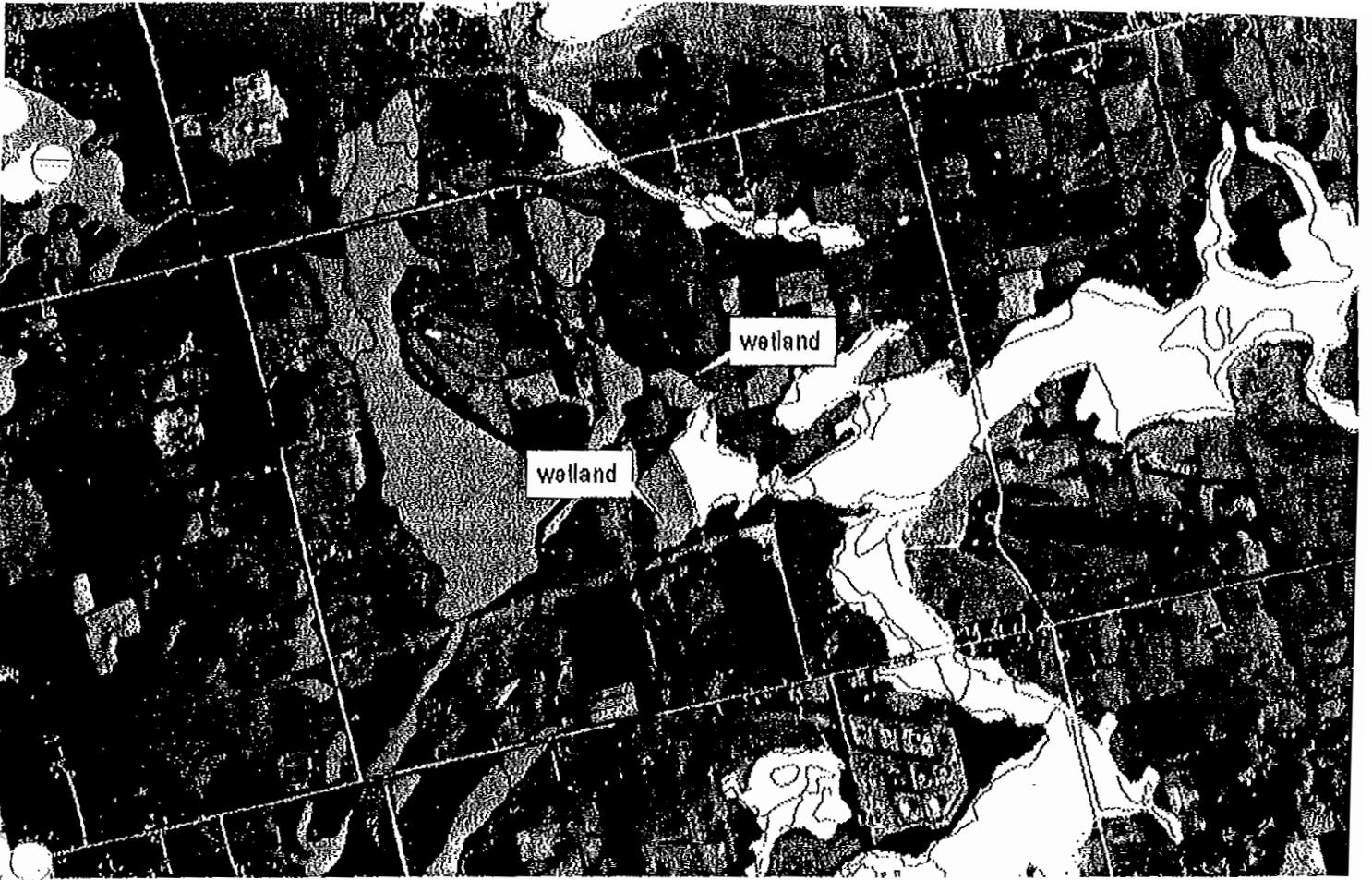


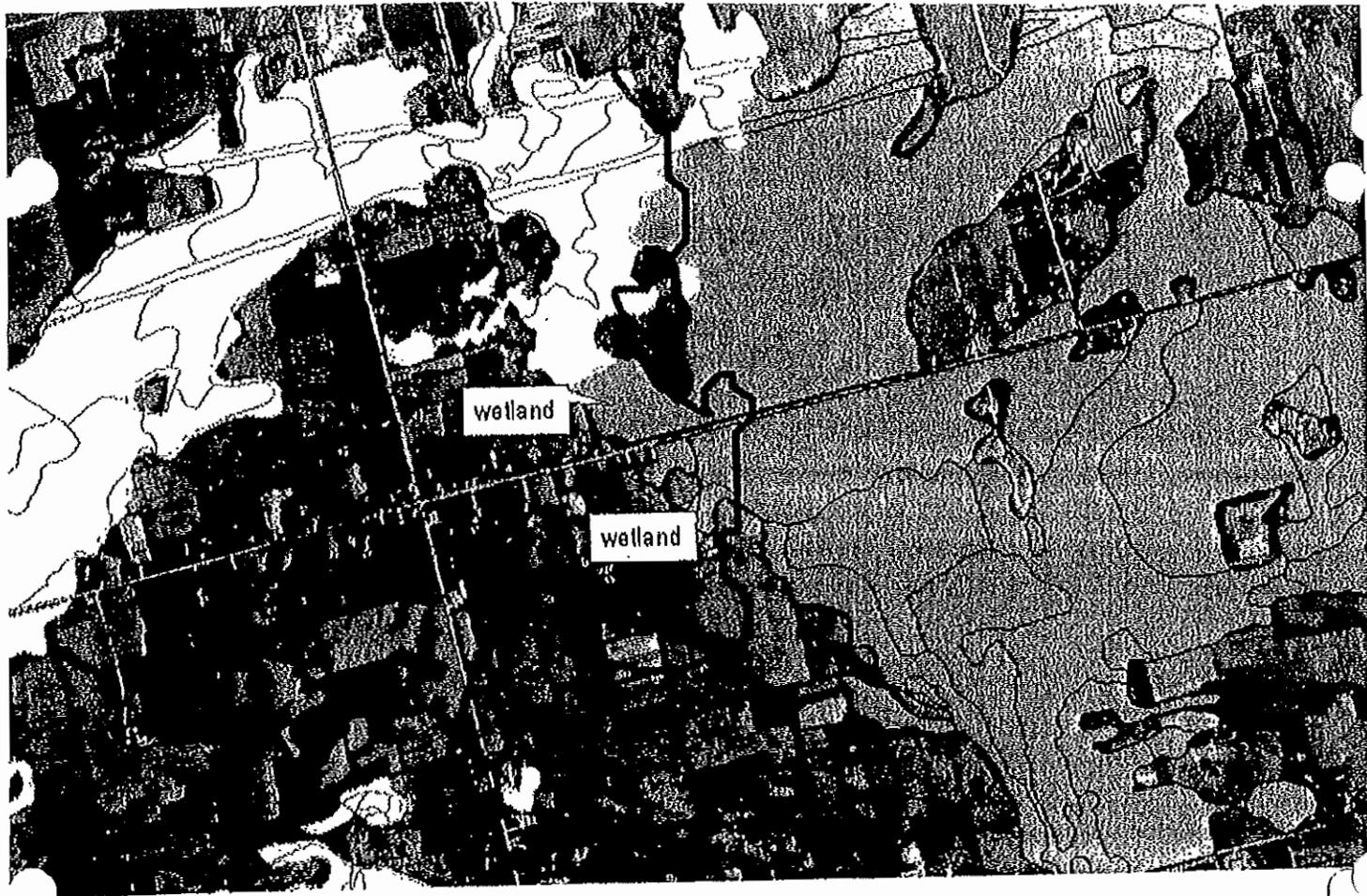
wetland

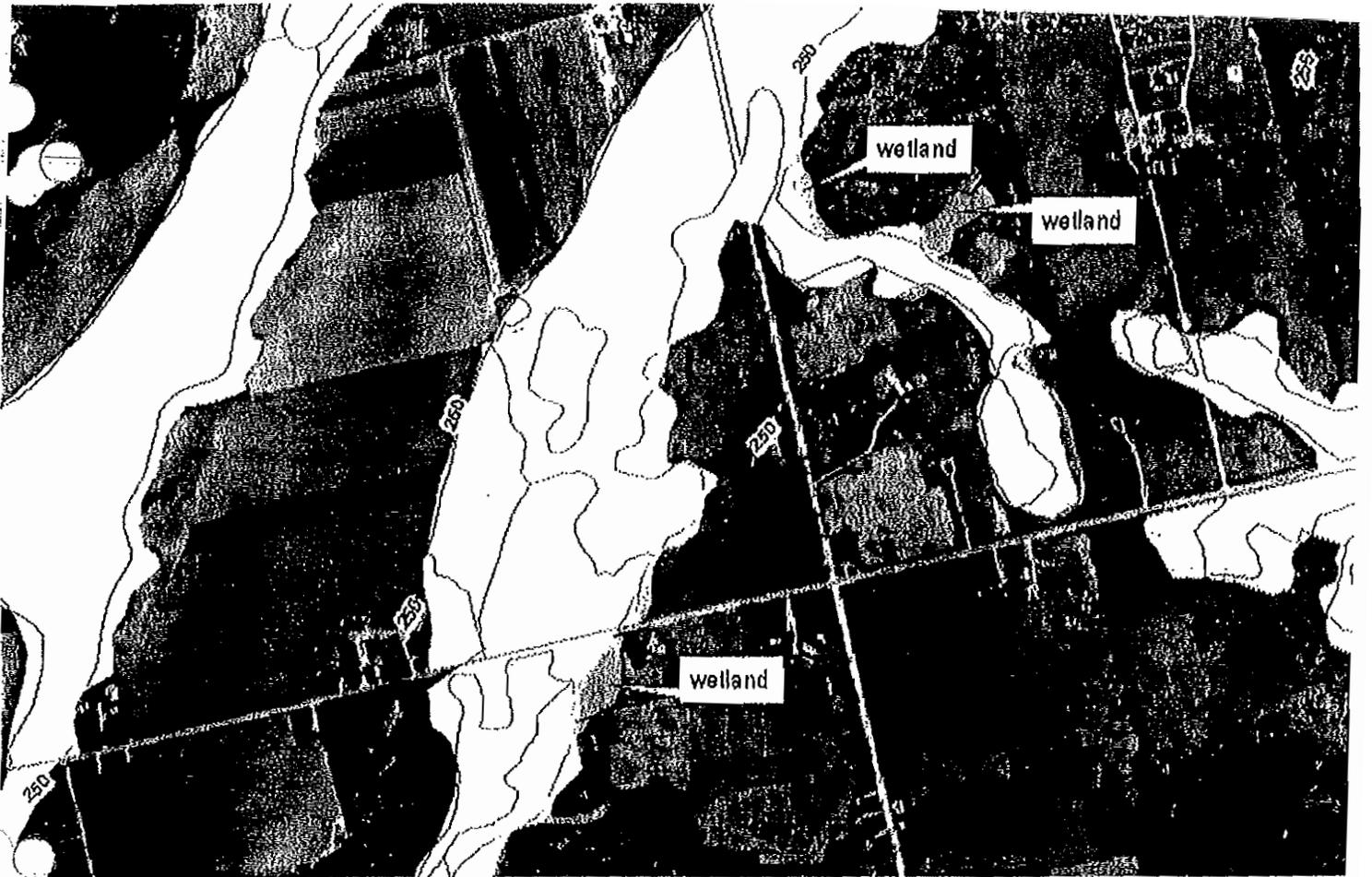
wetland

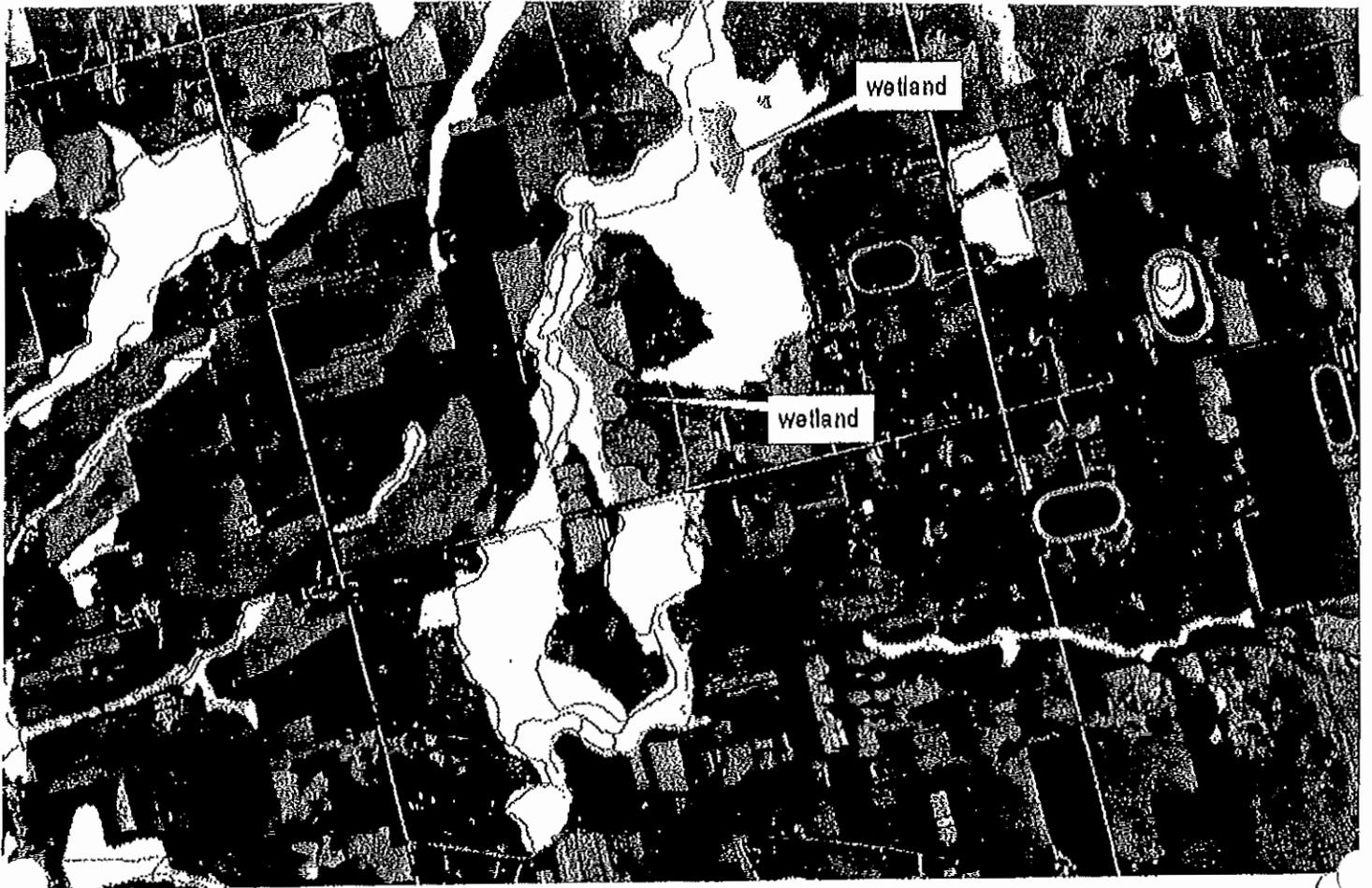


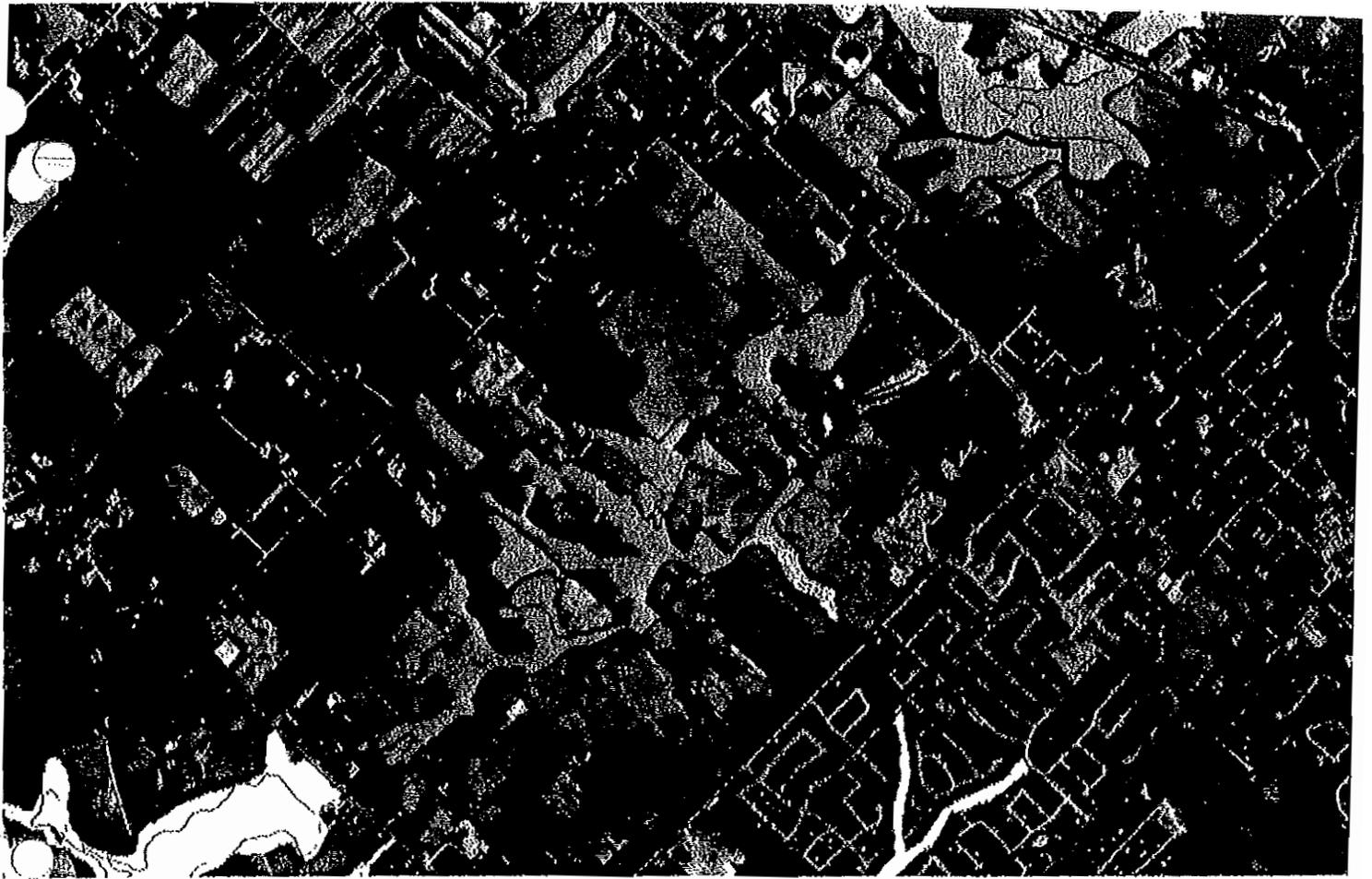


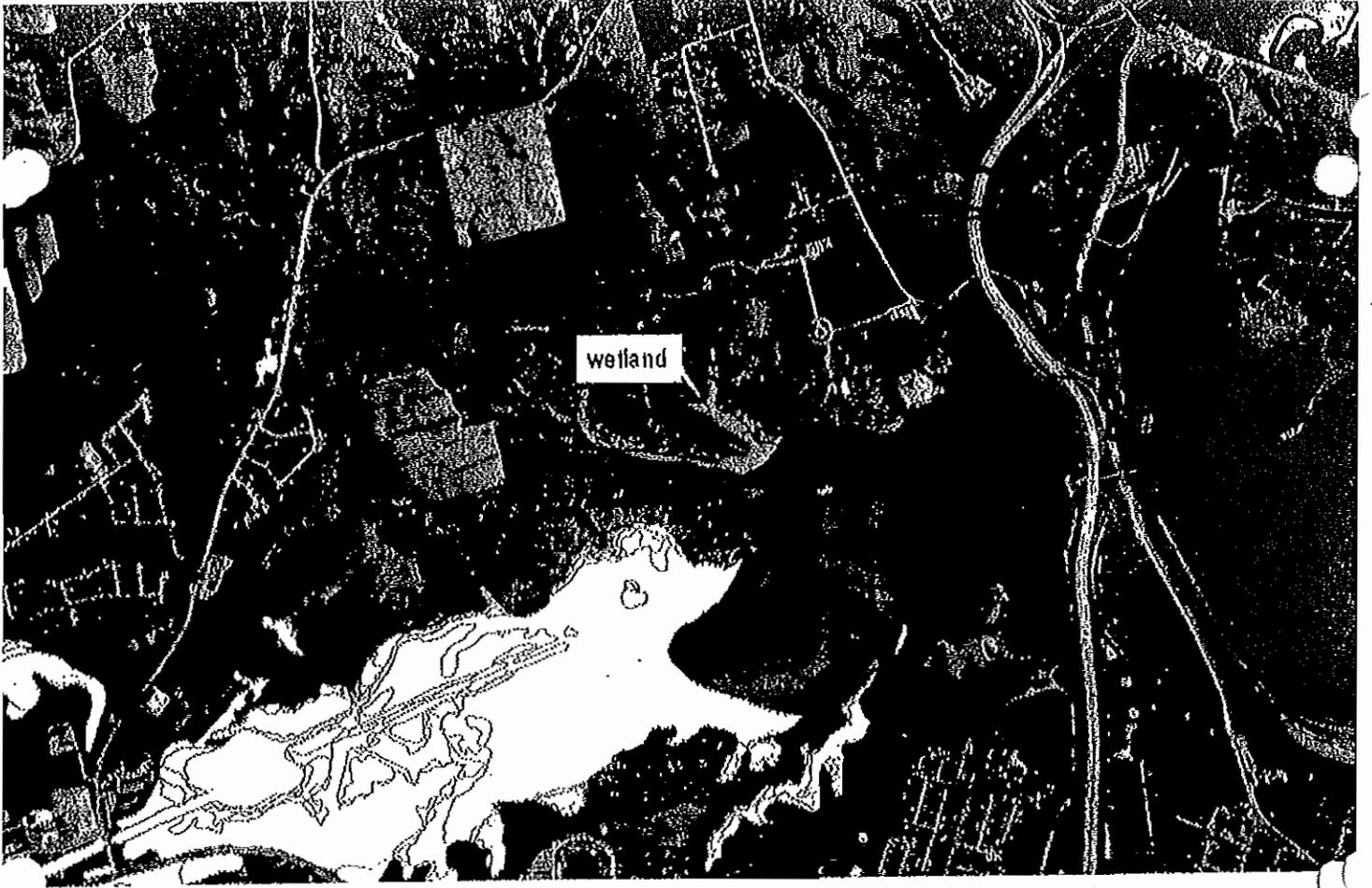














welland developed

APPENDIX D – HCA Transitional Policies

INTRODUCTION

The policies found on the following pages provide guidelines to HCA staff when dealing with development applications that have been issued prior to the approval of HCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation 161/06. For more information regarding the transitional policies within this appendix, the reader should contact Authority staff.

Transitional Procedures and Guidelines

**(Transitioning from the Fill, Construction and Alteration to
Waterways Regulation to the new Development, Interference
with Wetlands and Alterations to Shorelines and Watercourses
Regulation)**

April 2006

1.0 Background

The existing Fill, Construction and Alteration to Waterways Regulations provided each CA with the power to regulate the following:

- (a) placing or dumping of fill in a regulated area,
- (b) construction of buildings and structures in any area susceptible to flooding during a regional storm, and
- (c) straightening, changing, diverting or interfering in any way with a waterway.

On May 1st, 2004, the Generic Regulation (Ontario Regulation 97/04) was approved by the province under subsection 28(1) of the Conservation Authorities Act. The "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses" regulation established the criteria that a regulation made by an Authority under subsection 28(1) of the Conservation Authorities Act must meet.

A principal mandate of Conservation Authorities is to prevent the loss of life and property damage due to flooding and erosion, and to conserve and enhance natural resources. The Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation is a key tool in fulfilling this mandate because it gives the CAs the power to regulate development, interference with wetlands, and alterations to shorelines and watercourses in areas where the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land may be affected by development.

The transitional policies and procedures are important in the implementation of the new regulations. It is anticipated that the Minister will approve the new regulations on or before May 1st, 2006. In the event the regulations are approved prior to this date, the transitional policies and procedures will become effective as of that date.

1.1 Purpose

Due to the changes brought about by the new regulation, a set of guidelines is necessary to ensure permits issued and new applications for development are subjected to the appropriate procedures and guidelines depending on their date of submission. Therefore, the purpose of this document is to establish a set of procedures that will guide staff of the Authority through the transition from the current Fill, Construction and Alteration to Watercourses Regulation to the implementation of the new Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.

1.2 Permit Applications

1.2.1 Applications Submitted Before May 1st, 2006

Applications for permission that are submitted to the Authority prior to May 1st, 2006 (or the date of approval by the Minister) will be subject to the procedures for the administration of the existing Fill, Construction and Alteration to Watercourses Regulation provided that the application is complete to the satisfaction of the Authority.

If the subject application for the proposed works is not within an area regulated under the new regulation, then the applicant will be advised that a permit is not required for the proposed works, and an Inquiry form will be issued by staff.

1.2.3 Applications Submitted After May 1st, 2006

All applications for permission to develop within an area regulated under the new Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation that are received after May 1st, 2006 (or the date of approval by the Minister) will be subject to the provisions under the new regulation.

1.3 Extension of Permits Issued under the Current Regulation

Any permits that were issued under the previous regulations and have expiry dates beyond May 1st, 2006 will continue to be valid for the duration identified on the permit. Inspections and conditions enforced under the Fill, Construction and Alteration to Waterways Regulation will continue until such time as the permit expires.

The old regulations will be revoked when the new regulations are approved. Therefore, a request for an extension of the existing permit must be received by the Authority prior to the date of expiry shown on the permit, and an extension will be issued under the new regulation. Extensions will not be required for those works not located within an area regulated under the new regulation.

1.4 Review of Planning Applications

1.4.1 Planning Applications Submitted Before May 1st, 2006

All plan input and review will be conducted based on the provisions of the current Fill, Construction and Alteration to Waterways Regulation.

1.4.2 Planning Applications Submitted After May 1st, 2006

All plan input and review will be conducted in accordance with the provisions of the new Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.

1.5 Violation Notices and Legal Actions Commenced Before May 1st, 2006

Violation Notices issued prior to May 1st, 2006 will continue to be addressed by enforcement staff in order to remedy/rectify the situation under the requirements of the Fill, Construction and Alteration to Waterways Regulation.

For those Violation Notices issued for works in an area not regulated under the new Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, upon satisfactory resolution of the matter, the proponent will be issued a letter advising that the works occurring in violation of the Fill, Construction and Alteration to Waterways Regulation have been satisfactorily remedied/rectified.

Legal actions that commenced prior to May 1st, 2006 will continue to proceed.

1.6 Other Agency Approvals

Issuance of a permit does not relieve the applicant from the responsibility of acquiring approval from other agencies, or relieve the applicant from compliance with any conditions that other agencies may impose on the work.

APPENDIX E – Fisheries Act – Section 35
(Level 2 Agreement)

INTRODUCTION

The information provided on the following pages outlines the Fish Habitat Management Worksharing Agreement between the Authority and Fisheries and Oceans Canada (DFO). This agreement has been in effective since June 25, 1998. For information regarding the agreement within this appendix, the reader should contact Authority staff for amendments, revisions, or updates thereto.

The Canada - Hamilton Region Conservation Authority
Fish Habitat Management Agreement Respecting Worksharing
Arrangements for Initial Review Determinations and Mitigation
Requirements for the Purposes of Section 35 of the Fisheries Act

This agreement is effective on the 25th day of June 1998.

BETWEEN:

Her Majesty in right of Canada ("Canada"), represented by the Minister of Fisheries and Oceans ("DFO")

OF THE FIRST PART;

AND

The Hamilton Region Conservation Authority, ("Conservation Authority")

OF THE SECOND PART.

Whereas Canada and the Conservation Authority share strong concerns for the protection of watersheds, aquatic species and their habitats;

Whereas Canada and the Conservation Authority accept and promote the objective of net gain of habitat and the goals of habitat conservation, restoration, development and no net loss as set out in Canada's Policy for the Management of Fish Habitat ("Policy");

Whereas Canada and the Conservation Authority recognize the importance of protecting, preserving and adding to fish habitat in conserving fish stocks;

Whereas Canada and the Conservation Authority recognize the role of fish stocks as an indicator of the health of ecosystems and as a source of food, enjoyment, cultural significance and income;

Whereas Canada and the Conservation Authority desire to foster and develop an approach to fish habitat management that is consistent in all parts of Ontario;

Whereas Canada and the Conservation Authority desire to improve the efficiency and effectiveness of the review of applications for development which may affect fish habitat;

And Whereas Canada and the Conservation Authority desire to build, foster and maintain cordial, professional and effective relationships with each other and with other agencies and groups and particularly the Ontario Ministry of Natural Resources (OMNR), which has provincial responsibilities in fisheries management and may also share in the responsibilities and contribute to capabilities to manage and control developments which may alter fish habitat;

Therefore the Parties will cooperate with each other and work together in implementing the Policy and its intents throughout the area administered by the Hamilton Region Conservation Authority and agree as follows:

ARTICLE I

PURPOSE

The purpose of this Agreement is to provide for a sharing of work obligations that arise in reviewing plans and providing mitigation advice for developments that may harm habitat pursuant to Section 35 of the Fisheries Act and so assist in conserving, renewing and developing fish habitat in the area administered by the Hamilton Region Conservation Authority by helping to give effect to the habitat provisions of the Fisheries Act and to the Policy and to the conservation goals, policies and objectives of the Conservation Authority in the area administered by the Hamilton Region Conservation Authority.

ARTICLE II

REVIEW OF CONSERVATION AUTHORITY PLANS

The Conservation Authority will conduct a review in conjunction with DFO of the plans for projects for development where the Conservation Authority is a proponent to ensure that the plans are in accordance with the intent and requirements of the Fisheries Act and the Policy, and if required will modify the plans to meet DFO's requirements.

ARTICLE III

WORK TO BE COORDINATED

A the Parties agree:

- 1) to develop, improve and implement an approach to managing fish habitat in Ontario that gives consideration to the abilities and experience with fish habitat management of the Conservation Authority;

- ii) to assist each other by sharing information and technical capacity, and to approach the conservation of fish and fish habitat with the knowledge and in the spirit that this conservation is essential to preserving enjoyment of, and access to, abundant nature in Canada;
- iii) to identify potential habitat improvement projects;
- iv) to jointly participate in preparing fish habitat management plans in the area administered by the Hamilton Region Conservation Authority and in consultation with OMNR and other relevant agencies;
- v) to consult with OMNR and invite OMNR's participation in relation to actions pursuant to this agreement consistent with OMNR's provincial authority and responsibility for the management of fisheries;
- vi) to keep each other informed of actions taken pursuant to this agreement.

B Canada agrees:

- i) to review, in a timely manner, consistent with the requirements of the Fisheries Act and the Policy, all development plans submitted to DFO that might result in harmful alteration, disruption or destruction of fish habitat (HADD);
- ii) to enforce the habitat provisions of the Fisheries Act;
- iii) to conduct a program of research directed at improving the understanding and the development of ways to protect or reduce harm to fish habitat;
- iv) to share the results of this fish habitat research and other information with the Conservation Authority;
- v) to assist fish habitat research undertaken by the Conservation Authority;
- vi) to assist in developing the professional and technical capacity of the Conservation Authority and to train or provide training for Conservation Authority employees in habitat biology, mitigative and compensatory measures and the habitat protection provisions of the Fisheries Act and other topics related to the conservation and protection of fish habitat;
- vii) to pay the federal Crown's costs of prosecutions brought under Sub-Section 35(2) of the Fisheries Act;
- viii) to assist in procuring information on stock management goals, plans and objectives for the area administered by the Conservation Authority;

- ix) to have a DFO habitat biologist visit the Conservation Authority office or staff to provide guidance and assistance to Conservation Authority biologists;
- x) to exercise the responsibilities of the Minister of Fisheries and Oceans for matters pertaining to fish habitat protection and compliance including decisions to require or accept compensation and decisions to authorize or refuse to authorize harmful alteration, disruption or destruction of fish habitat (HADD).

C the Conservation Authority agrees:

- i) to include in its review of plans for development submitted to it for approvals, aspects which determine whether or not fish habitat will likely be harmfully altered, disrupted or destroyed (HADD) and to make determinations respecting harm to fish habitat in a manner consistent with the guidance provided in Appendix One;
- ii) to include in its reviews of development such requirements for mitigation as are consistent with the guidance provided in Appendix One;
- iii) where mitigation is possible or not needed, the Conservation Authority agrees to inform developers, proponents and their advisers of the initial review determination and mitigation requirements made pursuant to Section C(i) and C(ii) of Article III;
- iv) where acceptable mitigation is not possible and harm to fish habitat is anticipated, to refer the proposal and the proponents to DFO;
- v) to otherwise use the powers and influence available to the Conservation Authority to protect fish and fish habitat;
- vi) to actively encourage its employees to take the training provided by DFO under this agreement;
- vii) to furnish to DFO on a monthly basis a report listing each active application and particulars pertaining to it including the location, name of applicant, work proposed, anticipated effects on fish habitat, recommendations made and disposition of the application;
- viii) to advise applicants to contact the appropriate federal agency in regard to any interests (Canadian Environmental Assessment Act "triggers") listed in Appendix Two that may be affected by the proposal.

ARTICLE IV

ANNUAL REPORT AND SELECTION OF RESPONSIBILITIES

The Parties agree that:

- 1) during the course of the year while this agreement is in force, the Parties will jointly prepare a report summarizing the work done under this agreement; including research, habitat development projects, numbers of projects reviewed according to kind, action required and the anticipated results and setting out a review of the work;
- 2) during the course of the year while this agreement is in force, the Parties will review the agreement to determine whether the Conservation Authority shall exercise responsibility for initial reviews, or initial reviews plus mitigation, or for initial reviews, plus mitigation and compensation advice, and that this agreement will be amended accordingly.

ARTICLE V

IMPROVING THE AGREEMENT

The Parties agree:

- 1) to meet together at least twice during the year that this agreement is in force to discuss improvements to the procedures for referring and acting on applications to modify fish habitat.

ARTICLE VI

TERM OF THE AGREEMENT

The Parties agree:

- 1) that this agreement shall remain in force for a period of one year commencing June 25, 1998, and may be extended by exchange of letters duly signed for a period to be agreed by the Parties, or until discontinued by a Party acting under Article VII;
- 2) this agreement may be amended from time to time by mutual written agreement of the Parties.

ARTICLE VII

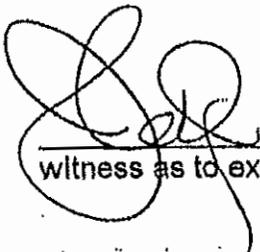
PROVISION FOR CANCELLATION

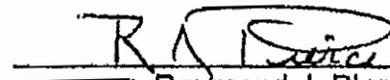
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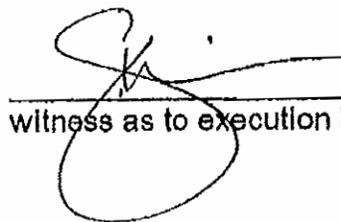
- 1) that this agreement may be canceled unilaterally by either Party by providing six (6) months notice in writing of the intention to cancel to the other Party or by mutual agreement with any agreed period of notice.

IN WITNESS WHEREOF, this agreement has been executed on the 25th day of June 1998 on behalf of the Minister of Fisheries and Oceans, by the Director General, Central and Arctic Region for DFO and on behalf of the Hamilton Region Conservation Authority, by the Vice Chair and by the Acting General Manager of the Hamilton Region Conservation Authority.

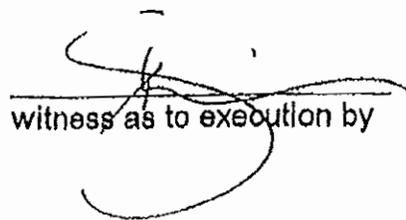
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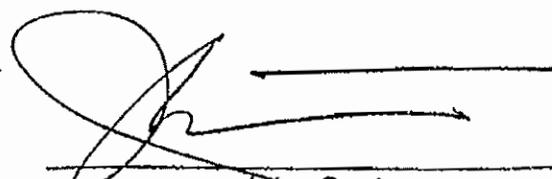

witness as to execution by


Raymond J. Pierce
Regional Director General
Central and Arctic Region, DFO


witness as to execution by


Mark Shurvin
Vice Chair
Hamilton Region Conservation Authority


witness as to execution by


John Coates
Acting General Manager
Hamilton Region Conservation Authority

1 What is Fish Habitat?

Spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

2 When is Fish Habitat Altered?

Any direct manipulation which changes, alters, disrupts or destroys habitat in or adjacent to the water or which induces probable changes to the conditions of the habitat (including temperature, light, dissolved gasses, water clarity, sediment load and other factors) constitutes an alteration, disruption or destruction of habitat.

3 When is a Change Harmful?

If the change is likely to result in adverse direct or indirect impacts on a commercial, native or recreational fishery or on fish stocks that are socially important or include species which are socially valued or warrant protection because of their scarcity, the change is harmful. The change is also harmful if it adversely affects the quantity, quality or function of habitat and thereby reduces productive capacity.

4 What is Mitigation?

Actions taken during the planning, design, construction and operation of works and undertakings to prevent potential adverse effects on the productive capacity of fish habitats.

For greater certainty, applicants should be advised that these definitions are not exhaustive and should refer to the Policy for the Management of Fish Habitat made thereunder.

Appendix Two - A List of Canadian Environmental Assessment Act (CEAA) Triggers

The Conservation Authority is asked to provide applicants with a copy of the following list and advise applicants that they should contact the relevant federal agency if their proposal may affect any of the interests listed below. Projects likely requiring a CEAA screening by a federal department (in addition to those entailing harmful effects on fish habitat) include those which:

are in or are likely to affect a national park, historic site, historic canal or native lands (Parks Canada - for Trent - Severn Canal (705) 750-4942, for Rideau Canal (613) 283-5170 for Fathom Five Park (519) 596-2702, or for native lands, Indian Affairs and Northern Development (416) 973-2131;

involve production or recovery of oil or gas or affect an oil or gas pipeline or a power line used for transmitting electricity in to or out of the province (Natural Resources Canada (613) 996-0055);

affect the operation of a railway or property owned or leased by a railway (Transport Canada, surface division, (416) 973-9820 or Canadian Transportation Agency (819) 953-9924);

entail operating or testing a mobile PCB treatment system (Environment Canada (905) 336-4953);

locate or build a radio communications tower (radio, TV, microwave, phone distribution etc.) (Industry Canada, Communications Div. (416) 973-5163);

may result in international air pollution (high stacks, large volumes of emissions) (Environment Canada (905) 336-4953);

entail the operation of aircraft (airports) (Transport Canada (416) 952-0154) or (416) 952-0486);

entail making or storing explosives, anhydrous ammonia or ammonium nitrate (Natural Resources Canada (613) 995-3866), or mining, processing or using uranium or thorium (Atomic Energy Control Board (613) 995-5334);

cause effluents from a metal mine to enter the water (Environment Canada (905) 336-4953);

affect navigability of a lake, river or canal or cause an underwater wreck to be moved (Canadian Coast Guard, (519) 383-1862);

affect the flow of water to points outside Canada (Environment Canada (905) 336-4953);

result in harm to migratory bird habitat in a bird sanctuary (Environment Canada, Canadian Wildlife Service (519) 472-1406);

involve importing animals for game ranching (Agriculture Canada (613) 225-2342 ext 4628 or 4629);

involve federal financial support, and/or a federal department or agency is a proponent (Applicants should contact the department making the financial contribution or the proponent agency);

involve the sale or lease of federal lands (Applicants should contact Government Services, Public Works, (416) 512-8274) except for projects on parks lands or Indian lands (where the Applicant should contact Parks Canada or the Department of Indian and Northern Affairs respectively).

For greater certainty, applicants should be advised that this list is not exhaustive and should refer to CEAA and regulations made thereunder.

APPENDIX F – Provincial Policy Statement

INTRODUCTION

The Provincial Policy Statement (2005) is provided in the following pages. For information regarding this Provincial legislation, the reader should contact Authority staff for amendments, revisions, or updates thereto.



2005

Provincial

Policy

Statement

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Materials may be available to assist planning authorities and decision-makers with implementing the policies of the Provincial Policy Statement. Please visit the Ministry Web site at www.mah.gov.on.ca for more information.

Approved by the Lieutenant Governor in Council, Order in Council No. 140/2005

This Provincial Policy Statement was issued under Section 3 of the *Planning Act* and came into effect March 1, 2005. It replaces the Provincial Policy Statement issued May 22, 1996, and amended February 1, 1997.

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Part I: PREAMBLE

The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for the citizens of Ontario.

The Provincial Policy Statement provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural environment. The Provincial Policy Statement supports improved land use planning and management, which contributes to a more effective and efficient land use planning system.

The policies of the Provincial Policy Statement may be complemented by provincial plans or by locally-generated policies regarding matters of municipal interest. Provincial plans and municipal official plans provide a framework for comprehensive, integrated and long-term planning that supports and integrates the principles of strong communities, a clean and healthy environment and economic growth, for the long term.

Land use planning is only one of the tools for implementing provincial interests. A wide range of legislation, regulations, policies and programs may also affect planning matters, and assist in implementing these interests.

Part II: LEGISLATIVE AUTHORITY

The Provincial Policy Statement is issued under the authority of Section 3 of the *Planning Act* and came into effect on March 1, 2005. It applies to all applications, matters or proceedings commenced on or after March 1, 2005.

In respect of the exercise of any authority that affects a planning matter, Section 3 of the *Planning Act* requires that decisions affecting planning matters "shall be consistent with" policy statements issued under the Act.

Part III: HOW TO READ THE PROVINCIAL POLICY STATEMENT

A policy-led planning system recognizes and addresses the complex inter-relationships among environmental, economic and social factors in land use planning. The Provincial Policy Statement supports a comprehensive, integrated and long-term approach to planning, and recognizes linkages among policy areas.

The Provincial Policy Statement is more than a set of individual policies. It is intended to be read in its entirety and the relevant policies are to be applied to each situation. A decision-maker should read all of the relevant policies as if they are specifically cross-referenced with each

other. While specific policies sometimes refer to other policies for ease of use, these cross-references do not take away from the need to read the Provincial Policy Statement as a whole.

Part IV, Vision for Ontario's Land Use Planning System, provides the context for applying the Provincial Policy Statement. Implementation issues are addressed in the Implementation and Interpretation section.

Except for references to legislation which are traditionally italicized, italicized terms in the Provincial Policy Statement are defined in the Definitions section. For other terms, the normal meaning of the word applies. Terms may be italicized only in specific policies; for these terms, the defined meaning applies where they are italicized and the normal meaning applies where they are not italicized. Defined terms in the Definitions section are intended to capture both singular and plural forms of these terms in the policies.

There is no implied priority in the order in which the policies appear.

Part IV: VISION FOR ONTARIO'S LAND USE PLANNING SYSTEM

The long-term prosperity and social well-being of Ontarians depend on maintaining strong communities, a clean and healthy environment and a strong economy.

Ontario is a vast province with diverse urban, rural and northern communities which may face different challenges related to diversity in population levels, economic activity, pace of growth and physical and natural conditions. Some areas face challenges related to maintaining population and diversifying their economy, while other areas face challenges related to accommodating and managing the development and population growth which is occurring, while protecting important resources and the quality of the natural environment. The Provincial Policy Statement reflects this diversity and is based on good planning principles that apply in communities across Ontario.

The Provincial Policy Statement focuses growth within settlement areas and away from significant or sensitive resources and areas which may pose a risk to public health and safety. It recognizes that the wise management of development may involve directing, promoting or sustaining growth. Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns.

Efficient development patterns optimize the use of land, resources and public investment in infrastructure and public service facilities. These land use patterns promote a mix of housing, employment, parks and open spaces, and transportation choices that facilitate pedestrian mobility and other modes of travel. They also support the financial well-being of the Province and municipalities over the long term, and minimize the undesirable effects of development, including impacts on air, water and other resources. Strong, liveable and healthy communities enhance social well-being and are economically and environmentally sound.

The Province's natural heritage resources, water, agricultural lands, mineral resources, and cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The Province must ensure that its resources are managed in a sustainable way to protect essential ecological processes and public health and safety, minimize environmental and social impacts, and meet its long-term needs.

It is equally important to protect the overall health and safety of the population. The Provincial Policy Statement directs development away from areas of natural and human-made hazards, where these hazards cannot be mitigated. This preventative approach supports provincial and municipal financial well-being over the long term, protects public health and safety, and minimizes cost, risk and social disruption.

Taking action to conserve land and resources avoids the need for costly remedial measures to correct problems and supports economic and environmental principles.

Strong communities, a clean and healthy environment and a strong economy are inextricably linked. Long-term prosperity, environmental health and social well-being should take precedence over short-term considerations.

The fundamental principles set out in the Provincial Policy Statement apply throughout Ontario, despite regional variations. To support our collective well-being, now and in the future, all land use must be well managed.

The Vision for Ontario's Land Use Planning System may be further articulated through planning direction for specific areas of the Province issued through provincial plans, such as those plans created under the *Niagara Escarpment Planning and Development Act* and the *Oak Ridges Moraine Conservation Act, 2001*, which are approved by the Lieutenant Governor in Council or the Minister of Municipal Affairs and Housing.

Part V: POLICIES

1.0 BUILDING STRONG COMMUNITIES

Ontario's long-term prosperity, environmental health and social well-being depend on wisely managing change and promoting efficient land use and development patterns. Efficient land use and development patterns support strong, liveable and healthy communities, protect the environment and public health and safety, and facilitate economic growth.

Accordingly:

1.1 MANAGING AND DIRECTING LAND USE TO ACHIEVE EFFICIENT DEVELOPMENT AND LAND USE PATTERNS

1.1.1 Healthy, liveable and safe communities are sustained by:

- a) promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
- b) accommodating an appropriate range and mix of residential, employment (including industrial, commercial and institutional uses), recreational and open space uses to meet long-term needs;
- c) avoiding development and land use patterns which may cause environmental or public health and safety concerns;
- d) avoiding development and land use patterns that would prevent the efficient expansion of *settlement areas* in those areas which are adjacent or close to *settlement areas*;
- e) promoting cost-effective development standards to minimize land consumption and servicing costs;
- f) improving accessibility for persons with disabilities and the elderly by removing and/or preventing land use barriers which restrict their full participation in society; and
- g) ensuring that necessary *infrastructure* and *public service facilities* are or will be available to meet current and projected needs.

1.1.2 Sufficient land shall be made available through *intensification* and *redevelopment* and, if necessary, *designated growth areas*, to accommodate an appropriate range and mix of employment opportunities, housing and other land uses to meet projected needs for a time horizon of up to 20 years. However, where an alternate time period has been established for specific areas of the Province as a result of a provincial planning exercise or a *provincial plan*, that time frame may be used for municipalities within the area.

1.1.3 Settlement Areas

1.1.3.1 *Settlement areas* shall be the focus of growth and their vitality and regeneration shall be promoted.

1.1.3.2 Land use patterns within *settlement areas* shall be based on:

- a) densities and a mix of land uses which:
 1. efficiently use land and resources;
 2. are appropriate for, and efficiently use, the *infrastructure* and *public service facilities* which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion; and
 3. minimize negative impacts to air quality and climate change, and promote energy efficiency in accordance with policy 1.8; and
- b) a range of uses and opportunities for *intensification* and *redevelopment* in accordance with the criteria in policy 1.1.3.3.

1.1.3.3 Planning authorities shall identify and promote opportunities for *intensification* and *redevelopment* where this can be accommodated taking into account existing building stock or areas, including *brownfield sites*, and the availability of suitable existing or planned *infrastructure* and *public service facilities* required to accommodate projected needs.

Intensification and *redevelopment* shall be directed in accordance with the policies of Section 2: Wise Use and Management of Resources and Section 3: Protecting Public Health and Safety.

1.1.3.4 Appropriate development standards should be promoted which facilitate *intensification*, *redevelopment* and compact form, while maintaining appropriate levels of public health and safety.

1.1.3.5 Planning authorities shall establish and implement minimum targets for *intensification* and *redevelopment* within built-up areas. However, where provincial targets are established through *provincial plans*, the provincial target shall represent the minimum target for affected areas.

1.1.3.6 Planning authorities shall establish and implement phasing policies to ensure that specified targets for *intensification* and *redevelopment* are achieved prior to, or concurrent with, new development within *designated growth areas*.

1.1.3.7 New development taking place in *designated growth areas* should occur adjacent to the existing built-up area and shall have a compact form, mix of uses and densities that allow for the efficient use of land, *infrastructure* and *public service facilities*.

1.1.3.8 Planning authorities shall establish and implement phasing policies to ensure the orderly progression of development within *designated growth areas* and the timely

provision of the *infrastructure* and *public service facilities* required to meet current and projected needs.—

- 1.1.3.9 A planning authority may identify a *settlement area* or allow the expansion of a *settlement area* boundary only at the time of a *comprehensive review* and only where it has been demonstrated that:
- a) sufficient opportunities for growth are not available through *intensification*, *redevelopment* and *designated growth areas* to accommodate the projected needs over the identified planning horizon;
 - b) the *infrastructure* and *public service facilities* which are planned or available are suitable for the development over the long term and protect public health and safety;
 - c) in *prime agricultural areas*:
 - 1. the lands do not comprise *specialty crop areas*;
 - 2. there are no reasonable alternatives which avoid *prime agricultural areas*; and
 - 3. there are no reasonable alternatives on lower priority agricultural lands in *prime agricultural areas*; and
 - d) impacts from new or expanding *settlement areas* on agricultural operations which are adjacent or close to the *settlement area* are mitigated to the extent feasible.

In determining the most appropriate direction for expansions to the boundaries of *settlement areas* or the identification of a *settlement area* by a planning authority, a planning authority shall apply the policies of Section 2: Wise Use and Management of Resources and Section 3: Protecting Public Health and Safety.

1.1.4 Rural Areas in Municipalities

1.1.4.1 In *rural areas* located in municipalities:

- a) permitted uses and activities shall relate to the management or use of resources, resource-based recreational activities, limited residential development and other rural land uses;
- b) development shall be appropriate to the *infrastructure* which is planned or available, and avoid the need for the unjustified and/or uneconomical expansion of this *infrastructure*;
- c) new land uses, including the creation of lots, and new or expanding livestock facilities, shall comply with the *minimum distance separation formulae*;
- d) development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted;
- e) locally-important agricultural and resource areas should be designated and protected by directing non-related development to areas where it will not constrain these uses;
- f) opportunities should be retained to locate new or expanding land uses that require separation from other uses; and

- g) recreational, tourism and other economic opportunities should be promoted.

1.1.5 Rural Areas in Territory Without Municipal Organization

1.1.5.1 In *rural areas* located in territory without municipal organization, the focus of development activity shall be activities and land uses related to the management or use of resources and resource-based recreational activities.

1.1.5.2 The establishment of new permanent townsites shall not be permitted.

1.1.5.3 In areas adjacent to and surrounding municipalities, only development that is related to the management or use of resources and resource-based recreational activity shall be permitted unless:

- a) the area forms part of a planning area; and
- b) it has been determined, as part of a *comprehensive review*, that the impacts of growth will not place an undue strain on the *public service facilities* and *infrastructure* provided by adjacent municipalities, regions and/or the Province.

1.2 COORDINATION

1.2.1 A coordinated, integrated and comprehensive approach should be used when dealing with planning matters within municipalities, or which cross lower, single and/or upper-tier municipal boundaries, including:

- a) managing and/or promoting growth and development;
- b) managing natural heritage, water, agricultural, mineral, and cultural heritage and archaeological resources;
- c) *infrastructure, public service facilities* and *waste management systems*;
- d) ecosystem, shoreline and watershed related issues;
- e) natural and human-made hazards; and
- f) population, housing and employment projections, based on *regional market areas*.

1.2.2 Where planning is conducted by an upper-tier municipality, the upper-tier municipality in consultation with lower-tier municipalities shall:

- a) identify, coordinate and allocate population, housing and employment projections for lower-tier municipalities. Allocations and projections by upper-tier municipalities shall be based on and reflect *provincial plans* where these exist;
- b) identify areas where growth will be directed, including the identification of nodes and the corridors linking these nodes;

- c) identify targets for *intensification* and *redevelopment* within all or any of the lower-tier municipalities, including minimum targets that should be met before expansion of the boundaries of *settlement areas* is permitted in accordance with policy 1.1.3.9;
- d) where transit corridors exist or are to be developed, identify density targets for areas adjacent or in proximity to these corridors, including minimum targets that should be met before expansion of the boundaries of *settlement areas* is permitted in accordance with policy 1.1.3.9; and
- e) identify and provide policy direction for the lower-tier municipalities on matters that cross municipal boundaries.

1.2.3 Where there is no upper-tier municipality, planning authorities shall ensure that policy 1.2.2 is addressed as part of the planning process, and should coordinate these matters with adjacent planning authorities.-

1.3 EMPLOYMENT AREAS

1.3.1 Planning authorities shall promote economic development and competitiveness by:

- a) providing for an appropriate mix and range of employment (including industrial, commercial and institutional uses) to meet long-term needs;
- b) providing opportunities for a diversified economic base, including maintaining a range and choice of suitable sites for employment uses which support a wide range of economic activities and ancillary uses, and take into account the needs of existing and future businesses;
- c) planning for, protecting and preserving *employment areas* for current and future uses; and
- d) ensuring the necessary *infrastructure* is provided to support current and projected needs.

1.3.2 Planning authorities may permit conversion of lands within *employment areas* to non-employment uses through a *comprehensive review*, only where it has been demonstrated that the land is not required for employment purposes over the long term and that there is a need for the conversion.

1.4 HOUSING

1.4.1 To provide for an appropriate range of housing types and densities required to meet projected requirements of current and future residents of the *regional market area* identified in policy 1.4.3, planning authorities shall:

- a) maintain at all times the ability to accommodate residential growth for a minimum of 10 years through *residential intensification* and *redevelopment* and, if necessary, lands which are *designated and available* for residential development; and

- b) maintain at all times where new development is to occur, land with servicing capacity sufficient to provide at least a 3 year supply of residential units available through lands suitably zoned to facilitate *residential intensification* and *redevelopment*, and land in draft approved and registered plans.

1.4.2 Where planning is conducted by an upper-tier municipality:

- a) the land and unit supply maintained by the lower-tier municipality identified in policy 1.4.1 shall be based on and reflect the allocation of population and units by the upper-tier municipality; and
- b) the allocation of population and units by the upper-tier municipality shall be based on and reflect *provincial plans* where these exist.

1.4.3 Planning authorities shall provide for an appropriate range of housing types and densities to meet projected requirements of current and future residents of the *regional market area* by:

- a) establishing and implementing minimum targets for the provision of housing which is *affordable* to *low and moderate income households*. However, where planning is conducted by an upper-tier municipality, the upper-tier municipality in consultation with the lower-tier municipalities may identify a higher target(s) which shall represent the minimum target(s) for these lower-tier municipalities;
- b) permitting and facilitating:
 1. all forms of housing required to meet the social, health and well-being requirements of current and future residents, including *special needs* requirements; and
 2. all forms of *residential intensification* and *redevelopment* in accordance with policy 1.1.3.3;
- e) directing the development of new housing towards locations where appropriate levels of *infrastructure* and *public service facilities* are or will be available to support current and projected needs;
- d) promoting densities for new housing which efficiently use land, resources, *infrastructure* and *public service facilities*, and support the use of alternative transportation modes and public transit in areas where it exists or is to be developed; and
- e) establishing development standards for *residential intensification*, *redevelopment* and new residential development which minimize the cost of housing and facilitate compact form, while maintaining appropriate levels of public health and safety.

1.5 PUBLIC SPACES, PARKS AND OPEN SPACE

1.5.1 Healthy, active communities should be promoted by:

- a) planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, and facilitate pedestrian and non-motorized movement, including but not limited to, walking and cycling;
- b) providing for a full range and equitable distribution of publicly-accessible built and natural settings for *recreation*, including facilities, parklands, open space areas, trails and, where practical, water-based resources;
- c) providing opportunities for public access to shorelines; and
- d) considering the impacts of planning decisions on provincial parks, conservation reserves and conservation areas.

1.6 INFRASTRUCTURE AND PUBLIC SERVICE FACILITIES

1.6.1 *Infrastructure* and *public service facilities* shall be provided in a coordinated, efficient and cost-effective manner to accommodate projected needs.

Planning for *infrastructure* and *public service facilities* shall be integrated with planning for growth so that these are available to meet current and projected needs.

1.6.2 The use of existing *infrastructure* and *public service facilities* should be optimized, wherever feasible, before consideration is given to developing new *infrastructure* and *public service facilities*.

1.6.3 *Infrastructure* and *public service facilities* should be strategically located to support the effective and efficient delivery of emergency management services.

Where feasible, *public service facilities* should be co-located to promote cost-effectiveness and facilitate service integration.

1.6.4 Sewage and Water

1.6.4.1 Planning for *sewage and water services* shall:

- a) direct and accommodate expected growth in a manner that promotes the efficient use of existing:
 - 1. *municipal sewage services* and *municipal water services*; and
 - 2. *private communal sewage services* and *private communal water services*, where *municipal sewage services* and *municipal water services* are not available;
- b) ensure that these systems are provided in a manner that:
 - 1. can be sustained by the water resources upon which such services rely;
 - 2. is financially viable and complies with all regulatory requirements; and
 - 3. protects human health and the natural environment;

- c) promote water conservation and water use efficiency;
- d) integrate servicing and land use considerations at all stages of the planning process; and
- e) subject to the hierarchy of services provided in policies 1.6.4.2, 1.6.4.3 and 1.6.4.4, allow lot creation only if there is confirmation of sufficient *reserve sewage system capacity* and *reserve water system capacity* within *municipal sewage services* and *municipal water services* or *private communal sewage services* and *private communal water services*. The determination of sufficient *reserve sewage system capacity* shall include treatment capacity for hauled sewage from *private communal sewage services* and *individual on-site sewage services*.

1.6.4.2 *Municipal sewage services* and *municipal water services* are the preferred form of servicing for *settlement areas*. *Intensification* and *redevelopment* within *settlement areas* on existing *municipal sewage services* and *municipal water services* should be promoted, wherever feasible.

1.6.4.3 Municipalities may choose to use *private communal sewage services* and *private communal water services*, and where policy 1.6.4.4 permits, *individual on-site sewage services* and *individual on-site water services*, where:

- a) *municipal sewage services* and *municipal water services* are not provided; and
- b) the municipality has established policies to ensure that the services to be provided satisfy the criteria set out in policy 1.6.4.1.

1.6.4.4 *Individual on-site sewage services* and *individual on-site water services* shall be used for a new development of five or less lots or private residences where *municipal sewage services* and *municipal water services* or *private communal sewage services* and *private communal water services* are not provided and where site conditions are suitable for the long-term provision of such services. Despite this, *individual on-site sewage services* and *individual on-site water services* may be used to service more than five lots or private residences in *rural areas* provided these services are solely for those uses permitted by policy 1.1.4.1(a) and site conditions are suitable for the long-term provision of such services.

1.6.4.5 *Partial services* shall only be permitted in the following circumstances:

- a) where they are necessary to address failed *individual on-site sewage services* and *individual on-site water services* in existing development; and
- b) within *settlement areas*, to allow for infilling and rounding out of existing development on *partial services* provided that:
 1. the development is within the *reserve sewage system capacity* and *reserve water system capacity*; and
 2. site conditions are suitable for the long-term provision of such services.

1.6.5 Transportation Systems

- 1.6.5.1 *Transportation systems* should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.
- 1.6.5.2 Efficient use shall be made of existing and planned *infrastructure*.
- 1.6.5.3 Connectivity within and among *transportation systems* and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries.
- 1.6.5.4 A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support the development of viable choices and plans for public transit and other alternative transportation modes, including commuter rail and bus.
- 1.6.5.5 Transportation and land use considerations shall be integrated at all stages of the planning process.

1.6.6 Transportation and Infrastructure Corridors

- 1.6.6.1 Planning authorities shall plan for and protect corridors and rights-of-way for transportation, transit and *infrastructure* facilities to meet current and projected needs.
- 1.6.6.2 Planning authorities shall not permit *development* in *planned corridors* that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.
- 1.6.6.3 The preservation and reuse of abandoned corridors for purposes that maintain the corridor's integrity and continuous linear characteristics should be encouraged, wherever feasible.
- 1.6.6.4 When planning for corridors and rights-of-way for significant transportation and *infrastructure* facilities, consideration will be given to the significant resources in Section 2: Wise Use and Management of Resources.

1.6.7 Airports

- 1.6.7.1 Planning for land uses in the vicinity of *airports* shall be undertaken so that:
 - a) the long-term operation and economic role of *airports* is protected; and
 - b) *airports* and *sensitive land uses* are appropriately designed, buffered and/or separated from each other to prevent adverse effects from odour, noise and other contaminants.

1.6.7.2 *Airports* shall be protected from incompatible land uses and development by:

- a) prohibiting new residential *development* and other sensitive land uses in areas near *airports* above 30 NEF/NBP, as set out on maps (as revised from time to time) that have been reviewed by Transport Canada;
- b) considering redevelopment of existing residential uses and other sensitive land uses or infilling of residential and other sensitive land uses in areas above 30 NEF/NBP only if it has been demonstrated that there will be no negative impacts on the long-term function of the *airport*; and
- c) discouraging land uses which may cause a potential aviation safety hazard.

1.6.8 Waste Management

1.6.8.1 *Waste management systems* need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling objectives.

Waste management systems shall be located and designed in accordance with provincial legislation and standards.

1.7 LONG-TERM ECONOMIC PROSPERITY

1.7.1 Long-term economic prosperity should be supported by:

- a) optimizing the long-term availability and use of land, resources, *infrastructure* and *public service facilities*;
- b) maintaining and, where possible, enhancing the vitality and viability of downtowns and mainstreets;
- c) promoting the redevelopment of *brownfield sites*;
- d) providing for an efficient, cost-effective, reliable *multi-modal transportation system* that is integrated with adjacent systems and those of other jurisdictions, and is appropriate to address projected needs;
- e) planning so that major facilities (such as airports, transportation/transit/rail infrastructure and corridors, intermodal facilities, sewage treatment facilities, waste management systems, oil and gas pipelines, industries and resource extraction activities) and *sensitive land uses* are appropriately designed, buffered and/or separated from each other to prevent *adverse effects* from odour, noise and other contaminants, and minimize risk to public health and safety;
- f) providing opportunities for sustainable tourism development;
- g) promoting the sustainability of the agri-food sector by protecting agricultural resources and minimizing land use conflicts; and
- h) providing opportunities for increased energy generation, supply and conservation, including *alternative energy systems* and *renewable energy systems*.

1.8 ENERGY AND AIR QUALITY

- 1.8.1 Planning authorities shall support energy efficiency and improved air quality through land use and development patterns which:
- a) promote compact form and a structure of nodes and corridors;
 - b) promote the use of public transit and other alternative transportation modes in and between residential, employment (including commercial, industrial and institutional uses) and other areas where these exist or are to be developed;
 - c) focus major employment, commercial and other travel-intensive land uses on sites which are well served by public transit where this exists or is to be developed, or designing these to facilitate the establishment of public transit in the future;
 - d) improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion; and
 - e) promote design and orientation which maximize the use of alternative or renewable energy, such as solar and wind energy, and the mitigating effects of vegetation.
- 1.8.2 Increased energy supply should be promoted by providing opportunities for energy generation facilities to accommodate current and projected needs, and the use of *renewable energy systems* and *alternative energy systems*, where feasible.
- 1.8.3 *Alternative energy systems* and *renewable energy systems* shall be permitted in *settlement areas*, *rural areas* and *prime agricultural areas* in accordance with *provincial and federal requirements*. In *rural areas* and *prime agricultural areas*, these systems should be designed and constructed to minimize impacts on agricultural operations.

2.0 WISE USE AND MANAGEMENT OF RESOURCES

Ontario's long-term prosperity, environmental health, and social well-being depend on protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits.

Accordingly:

2.1 NATURAL HERITAGE

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas, surface water features and ground water features*.

2.1.3 *Development and site alteration* shall not be permitted in:

- a) *significant habitat of endangered species and threatened species;*
- b) *significant wetlands* in Ecoregions 5E, 6E and 7E¹; and
- c) *significant coastal wetlands.*

2.1.4 *Development and site alteration* shall not be permitted in:

- a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E¹;
- b) *significant woodlands* south and east of the Canadian Shield²;
- c) *significant valleylands* south and east of the Canadian Shield²;
- d) *significant wildlife habitat;* and
- e) *significant areas of natural and scientific interest*

unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

2.1.5 *Development and site alteration* shall not be permitted in *fish habitat* except in accordance with *provincial and federal requirements*.

2.1.6 *Development and site alteration* shall not be permitted on *adjacent lands* to the *natural heritage features and areas* identified in policies 2.1.3, 2.1.4 and 2.1.5 unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the natural features or on their *ecological functions*.

¹ Ecoregions 5E, 6E and 7E are shown on Figure 1.

² Areas south and east of the Canadian Shield are shown on Figure 1.

2.1.7 Nothing in policy 2.1 is intended to limit the ability of existing agricultural uses to continue.

2.2 WATER

2.2.1 Planning authorities shall protect, improve or restore the *quality and quantity of water* by:

- a) using the *watershed* as the ecologically meaningful scale for planning;
- b) minimizing potential *negative impacts*, including cross-jurisdictional and cross-*watershed* impacts;
- c) identifying *surface water features, ground water features, hydrologic functions* and *natural heritage features and areas* which are necessary for the ecological and hydrological integrity of the *watershed*;
- d) implementing necessary restrictions on *development* and *site alteration* to:
 1. protect all municipal drinking water supplies and *designated vulnerable areas*; and
 2. protect, improve or restore *vulnerable* surface and ground water, *sensitive surface water features* and *sensitive ground water features*, and their *hydrologic functions*;
- e) maintaining linkages and related functions among *surface water features, ground water features, hydrologic functions* and *natural heritage features and areas*;
- f) promoting efficient and sustainable use of water resources, including practices for water conservation and sustaining water quality; and
- g) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

2.2.2 *Development* and *site alteration* shall be restricted in or near *sensitive surface water features* and *sensitive ground water features* such that these features and their related *hydrologic functions* will be protected, improved or restored.

Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore *sensitive surface water features, sensitive ground water features, and their hydrologic functions*.

2.3 AGRICULTURE

2.3.1 *Prime agricultural areas* shall be protected for long-term use for agriculture.

Prime agricultural areas are areas where *prime agricultural lands* predominate. *Specialty crop areas* shall be given the highest priority for protection, followed by Classes 1, 2 and 3 soils, in this order of priority.

2.3.2 Planning authorities shall designate *specialty crop areas* in accordance with evaluation procedures established by the Province, as amended from time to time.

2.3.3 Permitted Uses

2.3.3.1 In *prime agricultural areas*, permitted uses and activities are: *agricultural uses*, *secondary uses* and *agriculture-related uses*.

Proposed new *secondary uses* and *agriculture-related uses* shall be compatible with, and shall not hinder, surrounding agricultural operations. These uses shall be limited in scale, and criteria for these uses shall be included in municipal planning documents as recommended by the Province, or based on municipal approaches which achieve the same objective.

2.3.3.2 In *prime agricultural areas*, all types, sizes and intensities of *agricultural uses* and *normal farm practices* shall be promoted and protected in accordance with provincial standards.

2.3.3.3 New land uses, including the creation of lots, and new or expanding livestock facilities shall comply with the *minimum distance separation formulae*.

2.3.4 Lot Creation and Lot Adjustments

2.3.4.1 Lot creation in *prime agricultural areas* is discouraged and may only be permitted for:

- a) *agricultural uses*, provided that the lots are of a size appropriate for the type of agricultural use(s) common in the area and are sufficiently large to maintain flexibility for future changes in the type or size of agricultural operations;
- b) *agriculture-related uses*, provided that any new lot will be limited to a minimum size needed to accommodate the use and appropriate *sewage and water services*;
- c) a *residence surplus to a farming operation* as a result of farm consolidation, provided that the planning authority ensures that new residential dwellings are prohibited on any vacant remnant parcel of farmland created by the severance. The approach used to ensure that no new residential dwellings are permitted on the remnant parcel may be recommended by the Province, or based on municipal approaches which achieve the same objective; and
- d) *infrastructure*, where the facility or corridor cannot be accommodated through the use of easements or rights-of-way.

- 2.3.4.2 Lot adjustments in *prime agricultural areas* may be permitted for *legal or technical reasons*.
- 2.3.4.3 The creation of new residential lots in *prime agricultural areas* shall not be permitted, except in accordance with policy 2.3.4.1(c).

2.3.5 Removal of Land from Prime Agricultural Areas

- 2.3.5.1 Planning authorities may only exclude land from *prime agricultural areas* for:
- a) expansions of or identification of *settlement areas* in accordance with policy 1.1.3.9;
 - b) extraction of *minerals, petroleum resources* and *mineral aggregate resources*, in accordance with policies 2.4 and 2.5; and
 - c) limited non-residential uses, provided that:
 1. the land does not comprise a *specialty crop area*;
 2. there is a demonstrated need within the planning horizon provided for in policy 1.1.2 for additional land to be designated to accommodate the proposed use;
 3. there are no reasonable alternative locations which avoid *prime agricultural areas*; and
 4. there are no reasonable alternative locations in *prime agricultural areas* with lower priority agricultural lands.
- 2.3.5.2 Impacts from any new or expanding non-agricultural uses on surrounding agricultural operations and lands should be mitigated to the extent feasible.

2.4 MINERALS AND PETROLEUM

- 2.4.1 *Minerals* and *petroleum resources* shall be protected for long-term use.
- 2.4.2 Protection of Long-Term Resource Supply
- 2.4.2.1 *Mineral mining operations* and *petroleum resource operations* shall be protected from *development* and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact.
- 2.4.2.2 In areas adjacent to or in known *mineral deposits* or known *petroleum resources*, and in *significant areas of mineral potential* and *significant areas of petroleum potential, development* and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:
- a) resource use would not be feasible; or
 - b) the proposed land use or development serves a greater long-term public interest; and
 - c) issues of public health, public safety and environmental impact are addressed.

2.4.3 Rehabilitation

- 2.4.3.1 Rehabilitation to accommodate subsequent land uses shall be required after extraction and other related activities have ceased. Progressive rehabilitation should be undertaken wherever feasible.

2.4.4 Extraction in Prime Agricultural Areas

- 2.4.4.1 Extraction of *minerals* and *petroleum resources* is permitted in *prime agricultural areas*, provided that the site is rehabilitated.

2.5 MINERAL AGGREGATE RESOURCES

- 2.5.1 *Mineral aggregate resources* shall be protected for long-term use.

2.5.2 Protection of Long-Term Resource Supply

- 2.5.2.1 As much of the *mineral aggregate resources* as is realistically possible shall be made available as close to markets as possible.

Demonstration of need for *mineral aggregate resources*, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of *mineral aggregate resources* locally or elsewhere.

- 2.5.2.2 Extraction shall be undertaken in a manner which minimizes social and environmental impacts.

- 2.5.2.3 The conservation of *mineral aggregate resources* should be promoted by making provision for the recovery of these resources, wherever feasible.

- 2.5.2.4 *Mineral aggregate operations* shall be protected from *development* and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing *mineral aggregate operations* shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the *Planning Act*. When a license for extraction or operation ceases to exist, policy 2.5.2.5 continues to apply.

- 2.5.2.5 In areas adjacent to or in known *deposits of mineral aggregate resources*, *development* and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:

- a) resource use would not be feasible; or
- b) the proposed land use or development serves a greater long-term public interest; and
- c) issues of public health, public safety and environmental impact are addressed.

2.5.3 Rehabilitation

- 2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, and to recognize the interim nature of extraction. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.
- 2.5.3.2 In parts of the Province not designated under the *Aggregate Resources Act*, rehabilitation standards that are compatible with those under the Act should be adopted for extraction operations on private lands.

2.5.4 Extraction in Prime Agricultural Areas

- 2.5.4.1 In *prime agricultural areas*, on *prime agricultural land*, extraction of *mineral aggregate resources* is permitted as an interim use provided that rehabilitation of the site will be carried out so that substantially the same areas and same average soil quality for agriculture are restored.

On these *prime agricultural lands*, complete agricultural rehabilitation is not required if:

- a) there is a substantial quantity of *mineral aggregate resources* below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;
- b) other alternatives have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 to 7 soils, resources on lands identified as *designated growth areas*, and resources on *prime agricultural lands* where rehabilitation is feasible. Where no other alternatives are found, *prime agricultural lands* shall be protected in this order of priority: *specialty crop areas*, Canada Land Inventory Classes 1, 2 and 3; and
- c) agricultural rehabilitation in remaining areas is maximized.

2.5.5 Wayside Pits and Quarries, Portable Asphalt Plants and Portable Concrete Plants

- 2.5.5.1 *Wayside pits and quarries, portable asphalt plants and portable concrete plants* used on public authority contracts shall be permitted, without the need for an official plan amendment, rezoning, or development permit under the *Planning Act* in all areas, except those areas of existing development or particular environmental sensitivity which have been determined to be incompatible with extraction and associated activities.

2.6 CULTURAL HERITAGE AND ARCHAEOLOGY

2.6.1 *Significant built heritage resources and significant cultural heritage landscapes shall be conserved.*

2.6.2 *Development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if the significant archaeological resources have been conserved by removal and documentation, or by preservation on site. Where significant archaeological resources must be preserved on site, only development and site alteration which maintain the heritage integrity of the site may be permitted.*

2.6.3 *Development and site alteration may be permitted on adjacent lands to protected heritage property where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.*

Mitigative measures and/or alternative development approaches may be required in order to conserve the *heritage attributes* of the *protected heritage property* affected by the adjacent *development* or *site alteration*.

3.0 PROTECTING PUBLIC HEALTH AND SAFETY

Ontario's long-term prosperity, environmental health and social well-being depend on reducing the potential for public cost or risk to Ontario's residents from natural or human-made hazards. Development shall be directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health or safety or of property damage.

Accordingly:

3.1 NATURAL HAZARDS

3.1.1 Development shall generally be directed to areas outside of:

- a) *hazardous lands* adjacent to the shorelines of the *Great Lakes - St. Lawrence River System* and *large inland lakes* which are impacted by *flooding hazards, erosion hazards* and/or *dynamic beach hazards*;
- b) *hazardous lands* adjacent to *river, stream and small inland lake systems* which are impacted by *flooding hazards* and/or *erosion hazards*; and
- c) *hazardous sites*.

3.1.2 *Development and site alteration* shall not be permitted within:

- a) *the dynamic beach hazard*;
- b) *defined portions of the one hundred year flood level along connecting channels* (the *St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers*);
- c) areas that would be rendered inaccessible to people and vehicles during times of *flooding hazards, erosion hazards* and/or *dynamic beach hazards*, unless it has been demonstrated that the site has safe access appropriate for the nature of the *development* and the natural hazard; and
- d) a *floodway* regardless of whether the area of inundation contains high points of land not subject to flooding.

3.1.3 Despite policy 3.1.2, *development and site alteration* may be permitted in certain areas identified in policy 3.1.2:

- a) in those exceptional situations where a *Special Policy Area* has been approved. The designation of a *Special Policy Area*, and any change or modification to the site-specific policies or boundaries applying to a *Special Policy Area*, must be approved by the Ministers of Municipal Affairs and Housing and Natural Resources prior to the approval authority approving such changes or modifications; or
- b) where the *development* is limited to uses which by their nature must locate within the *floodway*, including flood and/or erosion control works or minor additions or passive non-structural uses which do not affect flood flows.

- 3.1.4 *Development* shall not be permitted to locate in *hazardous lands* and *hazardous sites* where the use is:
- a) an institutional use associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young during an emergency as a result of flooding, failure of floodproofing measures or protection works, or erosion;
 - b) an essential emergency service such as that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of flooding, the failure of floodproofing measures and/or protection works, and/or erosion; and
 - c) uses associated with the disposal, manufacture, treatment or storage of *hazardous substances*.
- 3.1.5 Where the two zone concept for *flood plains* is applied, *development* and *site alteration* may be permitted in the *flood fringe*, subject to appropriate floodproofing to the *flooding hazard* elevation or another *flooding hazard* standard approved by the Minister of Natural Resources.
- 3.1.6 Further to policy 3.1.5, and except as prohibited in policies 3.1.2 and 3.1.4, *development* and *site alteration* may be permitted in those portions of *hazardous lands* and *hazardous sites* where the effects and risk to public safety are minor so as to be managed or mitigated in accordance with provincial standards, as determined by the demonstration and achievement of all of the following:
- a) *development* and *site alteration* is carried out in accordance with *floodproofing standards*, *protection works standards*, and *access standards*;
 - b) vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;
 - c) new hazards are not created and existing hazards are not aggravated; and
 - d) no adverse environmental impacts will result.

3.2 HUMAN-MADE HAZARDS

- 3.2.1 Development on, abutting or adjacent to lands affected by *mine hazards*; *oil, gas and salt hazards*; or former *mineral mining operations*, *mineral aggregate operations* or *petroleum resource operations* may be permitted only if rehabilitation measures to address and mitigate known or suspected hazards are under-way or have been completed.
- 3.2.2 Contaminated sites shall be remediated as necessary prior to any activity on the site associated with the proposed use such that there will be no *adverse effects*.

4.0 IMPLEMENTATION AND INTERPRETATION

4.1 This Provincial Policy Statement applies to all applications, matters or proceedings commenced on or after March 1, 2005.

4.2 In accordance with Section 3 of the *Planning Act*, as amended by the *Strong Communities (Planning Amendment) Act, 2004*, a decision of the council of a municipality, a local board, a planning board, a minister of the Crown and a ministry, board, commission or agency of the government, including the Municipal Board, in respect of the exercise of any authority that affects a planning matter, "shall be consistent with" this Provincial Policy Statement.

Comments, submissions or advice that affect a planning matter that are provided by the council of a municipality, a local board, a planning board, a minister or ministry, board, commission or agency of the government "shall be consistent with" this Provincial Policy Statement.

4.3 This Provincial Policy Statement shall be read in its entirety and all relevant policies are to be applied to each situation.

4.4 In implementing the Provincial Policy Statement, the Minister of Municipal Affairs and Housing may take into account other considerations when making decisions to support strong communities, a clean and healthy environment and the economic vitality of the Province.

4.5 The official plan is the most important vehicle for implementation of this Provincial Policy Statement.

Comprehensive, integrated and long-term planning is best achieved through municipal official plans. Municipal official plans shall identify provincial interests and set out appropriate land use designations and policies. Municipal official plans should also coordinate cross-boundary matters to complement the actions of other planning authorities and promote mutually beneficial solutions.

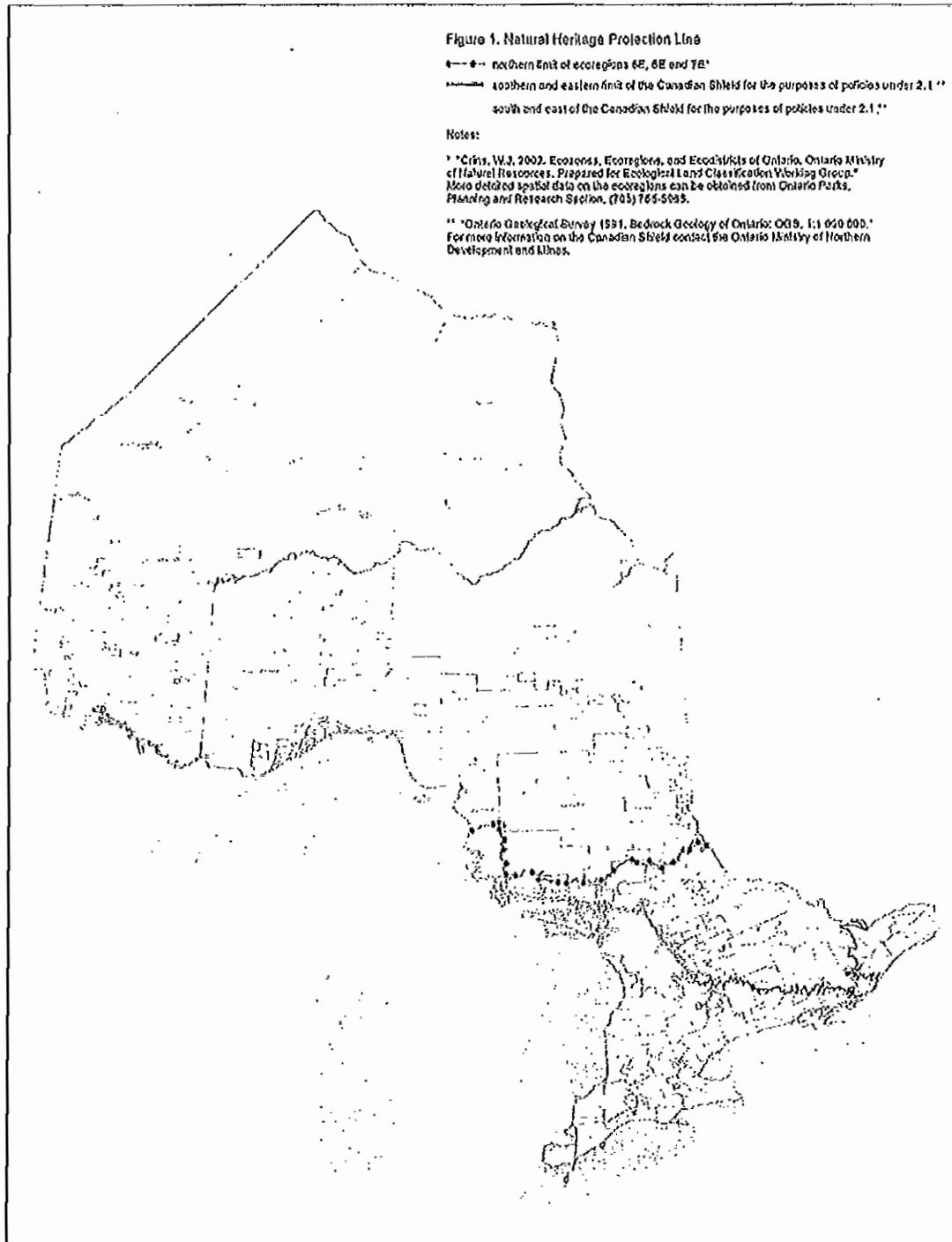
Municipal official plans shall provide clear, reasonable and attainable policies to protect provincial interests and direct development to suitable areas.

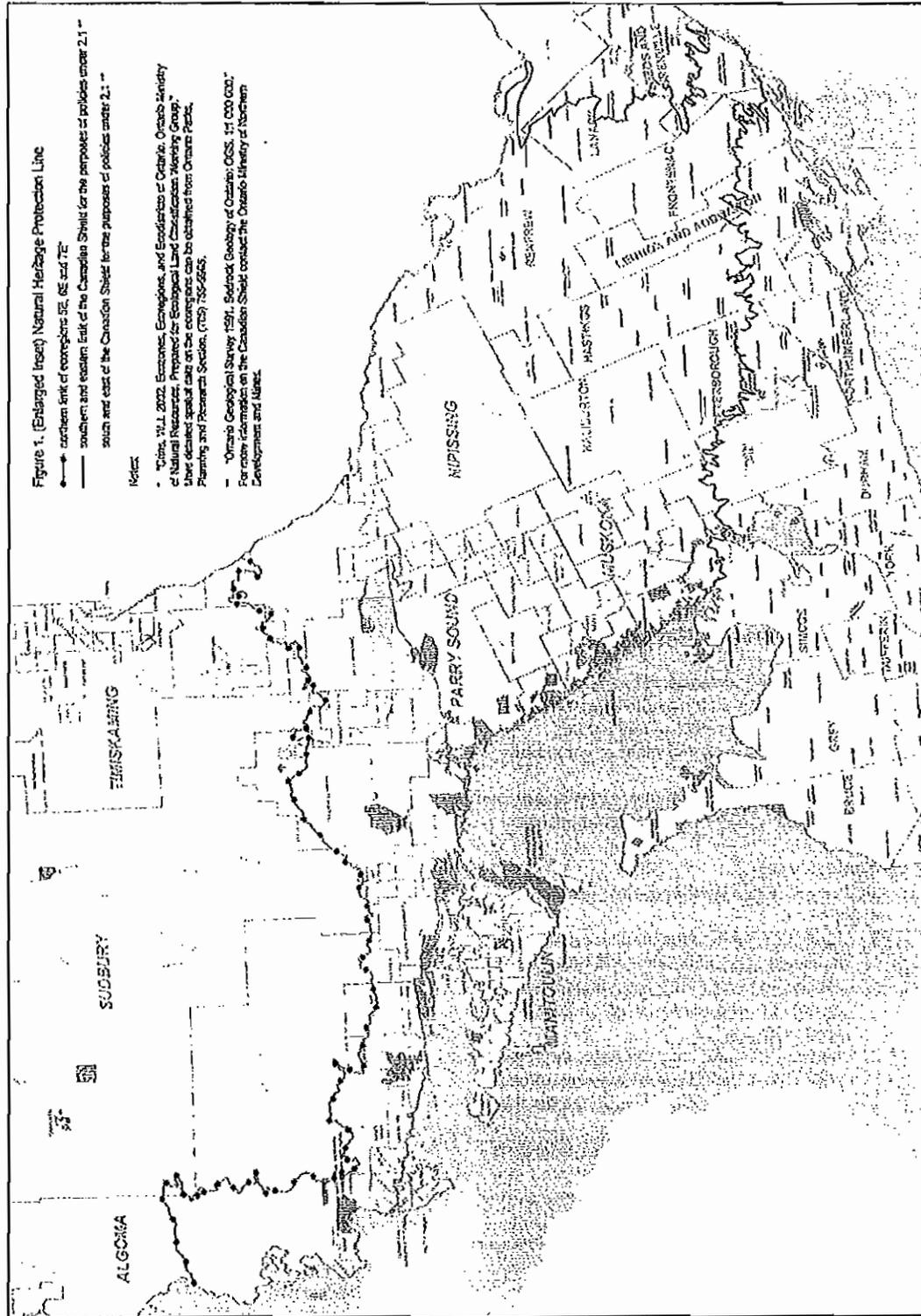
In order to protect provincial interests, planning authorities shall keep their official plans up-to-date with this Provincial Policy Statement. The policies of this Provincial Policy Statement continue to apply after adoption and approval of a municipal official plan.

4.6 The policies of this Provincial Policy Statement represent minimum standards. This Provincial Policy Statement does not prevent planning authorities and decision-makers from going beyond the minimum standards established in specific policies, unless doing so would conflict with any policy of this Provincial Policy Statement.

- 4.7 A wide range of legislation and regulations may apply to decisions with respect to *Planning Act* applications. In some cases, a *Planning Act* proposal may also require approval under other legislation or regulation.
- 4.8 In addition to land use approvals under the *Planning Act*, infrastructure may also require approval under other legislation and regulations, including the *Environmental Assessment Act*; the *Canadian Environmental Assessment Act, 1992*; the *Environmental Protection Act*; the *Ontario Energy Board Act, 1998*; the *Ontario Water Resources Act*; the *Conservation Authorities Act*; the *Ontario Heritage Act*; and the *Safe Drinking Water Act, 2002*. An environmental assessment process may be applied to new infrastructure and modifications to existing infrastructure under applicable legislation.
- 4.9 *Provincial plans* shall take precedence over policies in this Provincial Policy Statement to the extent of any conflict. Examples of these are plans created under the *Niagara Escarpment Planning and Development Act* and the *Oak Ridges Moraine Conservation Act, 2001*.
- 4.10 The Province, in consultation with municipalities, other public bodies and stakeholders shall identify performance indicators for measuring the effectiveness of some or all of the policies. The Province shall monitor their implementation, including reviewing performance indicators concurrent with any review of this Provincial Policy Statement.
- 4.11 Municipalities are encouraged to establish performance indicators to monitor the implementation of the policies in their official plans.

5.0 FIGURE 1





6.0 DEFINITIONS

Access standards: means methods or procedures to ensure safe vehicular and pedestrian movement, and access for the maintenance and repair of protection works, during times of *flooding hazards, erosion hazards and/or other water-related hazards.*

Adjacent lands: means

- a) for the purposes of policy 2.1, 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; and
- b) for the purposes of policy 2.6.3, those lands contiguous to a *protected heritage property* or as otherwise defined in the municipal official plan.

Adverse effects: as defined in the *Environmental Protection Act*, 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 property; and
- h) interference with normal conduct of business.

Affordable: means

- a) in the case of ownership housing, the least expensive of:
 1. housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for *low and moderate income households*; or
 2. housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the *regional market area*;
- b) in the case of rental housing, the least expensive of:
 1. a unit for which the rent does not exceed 30 percent of gross annual household income for *low and moderate income households*; or
 2. a unit for which the rent is at or below the average market rent of a unit in the *regional market area*.

Agricultural uses: means the growing of crops, including nursery and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiculture; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including accommodation for full-time farm labour when the size and nature of the operation requires additional employment.

Agriculture-related uses: means those farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

Airports: means all Ontario airports, including designated lands for future airports, with Noise Exposure Forecast (NEF)/Noise Exposure Projection (NEP) mapping.

Alternative energy systems: means sources of energy or energy conversion processes that significantly reduce the amount of harmful emissions to the environment (air, earth and water) when compared to conventional energy systems.

Archaeological resources: includes artifacts, archaeological sites and marine archaeological sites. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act*.

Areas of archaeological potential: means areas with the likelihood to contain *archaeological resources*. Criteria for determining archaeological potential are established by the Province, but municipal approaches which achieve the same objectives may also be used. Archaeological potential is confirmed through archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act*.

Areas of mineral potential: means areas favourable to the discovery of *mineral deposits* due to geology, the presence of known *mineral deposits* or other technical evidence.

Areas of natural and scientific interest (ANSI): means areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.

Arens of petroleum potential: means areas favourable to the discovery of *petroleum resources* due to geology, the presence of known *petroleum resources* or other technical evidence.

Brownfield sites: means undeveloped or previously developed properties that may be contaminated. They are usually, but not exclusively, former industrial or commercial properties that may be underutilized, derelict or vacant.

Built heritage resources: means one or more *significant* buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community. These resources may be identified through designation or heritage conservation easement under the *Ontario Heritage Act*, or listed by local, provincial or federal jurisdictions.

Coastal wetland: means

- a) any *wetland* that is located on one of the Great Lakes or their connecting channels (Lake St. Clair, St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers); or
- b) any other *wetland* that is on a tributary to any of the above-specified water bodies and lies, either wholly or in part, downstream of a line located 2 kilometres upstream of the 1:100 year floodline (plus wave run-up) of the large water body to which the tributary is connected.

Comprehensive review: means

- a) for the purposes of policies 1.1.3.9 and 1.3.2, an official plan review which is initiated by a planning authority, or an official plan amendment which is initiated or adopted by a planning authority, which:
 1. is based on a review of population and growth projections and which reflect projections and allocations by upper-tier municipalities and *provincial plans*, where applicable; considers alternative directions for growth; and determines how best to accommodate this growth while protecting provincial interests;
 2. utilizes opportunities to accommodate projected growth through *intensification* and *redevelopment*;
 3. confirms that the lands to be developed do not comprise *specialty crop areas* in accordance with policy 2.3.2;
 4. is integrated with planning for *infrastructure* and *public service facilities*; and
 5. considers cross-jurisdictional issues.

- b) for the purposes of policy 1.1.5, means a review undertaken by a planning authority or comparable body which:
 1. addresses long-term population projections, *infrastructure* requirements and related matters;
 2. confirms that the lands to be developed do not comprise *specialty crop areas* in accordance with policy 2.3.2; and
 3. considers cross-jurisdictional issues.

Conserved: means the identification, protection, use and/or management of cultural heritage and archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment.

Cultural heritage landscape: means a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the *Ontario Heritage Act*; and villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, railways and industrial complexes of cultural heritage value.

Defined portions of the one hundred year flood level along connecting channels: means those areas which are critical to the conveyance of the flows associated with the *one hundred year flood level* along the St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers, where *development* or *site alteration* will create *flooding hazards*, cause updrift and/or downdrift impacts and/or cause adverse environmental impacts.

Deposits of mineral aggregate resources: means an area of identified *mineral aggregate resources*, as delineated in Aggregate Resource Inventory Papers or comprehensive studies prepared using evaluation procedures established by the Province for surficial and bedrock resources, as amended from time to time, that has a sufficient quantity and quality to warrant present or future extraction.

Designated and available: for the purposes of policy 1.4.1(a), means lands designated in the official plan for urban residential use. For municipalities where more detailed official plan policies (o.g.,

secondary plans) are required before development applications can be considered for approval, only lands that have commenced the more detailed planning process are considered to be designated for the purposes of this definition.

Designated growth areas: means lands within *settlement areas* designated in an official plan for growth over the long-term planning horizon provided in policy 1.1.2, but which have not yet been fully developed. *Designated growth areas* include lands which are *designated and available* for residential growth in accordance with policy 1.4.1(a), as well as lands required for employment and other uses.

Designated vulnerable area: means areas defined as vulnerable, in accordance with provincial standards, by virtue of their importance as a drinking water source that may be impacted by activities or events.

Development: means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the *Planning Act*, but does not include:

- a) activities that create or maintain *infrastructure* authorized under an environmental assessment process;
- b) works subject to the *Drainage Act*; or
- c) for the purposes of policy 2.1.3(b), underground or surface mining of *minerals* or advanced exploration on mining lands in *significant areas of mineral potential* in Ecoregion 5E, where advanced exploration has the same meaning as under the *Mining Act*. Instead, those matters shall be subject to policy 2.1.4(a).

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 *floodings hazard limit* plus a dynamic beach allowance.

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.

Employment area: means those areas designated in an official plan for clusters of business and economic activities including, but not limited to,

manufacturing, warehousing, offices, and associated retail and ancillary facilities.

Endangered species: means a species that is listed or categorized as an "Endangered Species" on the Ontario Ministry of Natural Resources' official species at risk list, as updated and amended from time to time.

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 an one hundred year time span), an allowance for slope stability, and an erosion/erosion access allowance.

Fish: means fish, which as defined in S.2 of the *Fisheries Act*, c. F-14, as amended, includes fish, shellfish, crustaceans, and marine animals, at all stages of their life cycles.

Fish habitat: as defined in the *Fisheries Act*, c. F-14, means spawning grounds and nursery, rearing, food supply, and migration areas on which *fish* depend directly or indirectly in order to carry out their life processes.

Flood fringe: for *river, stream and small inland lake systems*, means the outer portion of the *flood plain* between the *floodway* and the *floodings hazard limit*. Depths and velocities of flooding are generally less severe in the flood fringe than those experienced in the *floodway*.

Flood plain: for *river stream, and small inland lake systems*, means the area, usually low lands adjoining a watercourse, which has been or may be subject to *floodings hazards*.

Floodings 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 *floodings 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 lake systems*, the *floodings 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*; and
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 standard for a specific watershed (where the past history of flooding supports the lowering of the standard).

Floodproofing standard: means the combination of measures incorporated into the basic design and/or construction of buildings, structures, or properties to reduce or eliminate *flooding hazards, wave uprush and other water-related hazards* along the shorelines of the *Great Lakes - St. Lawrence River System* and *large inland lakes*, and *flooding hazards* along *river, stream and small inland lake systems*.

Floodway: for *river, stream and small inland lake systems*, means the portion of the *flood plain* where *development and site alteration* would cause a danger to public health and safety or property damage.

Where the one zone concept is applied, the *floodway* is the entire contiguous *flood plain*.

Where the two zone concept is applied, the *floodway* is the contiguous inner portion of the *flood plain*, representing 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 damage. Where the two zone concept applies, the outer portion of the *flood plain* is called the *flood fringe*.

Great Lakes - St. Lawrence River System: means the major water system consisting of Lakes Superior, Huron, St. Clair, Erie and Ontario and their connecting channels, and the St. Lawrence River within the boundaries of the Province of Ontario.

Ground water feature: refers to water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and

unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

Hazardous lands: means property or lands that could be unsafe for development due to naturally occurring processes. Along the shorelines of the *Great Lakes - St. Lawrence River System*, this means the land, including that covered by water, between the international boundary, where applicable, and the furthest landward limit of the *flooding hazard, erosion hazard or dynamic beach hazard* limits. 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 lake systems*, this means the land, including that covered by water, to the furthest landward limit of the *flooding hazard or erosion hazard* limits.

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

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.

Heritage attributes: means the principal features, characteristics, context and appearance that contribute to the cultural heritage significance of a *protected heritage property*.

Hydrologic function: means the functions of the hydrological 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.

Individual on-site sewage services: means individual, autonomous sewage disposal systems within the meaning of s.8.1.2, O.Reg. 403/97, under the *Building Code Act, 1992* that are owned, operated and managed by the owner of the property upon which the system is located.

Individual on-site water services: means individual, autonomous water supply systems that are owned, operated and managed by the owner of the property upon which the system is located.

Infrastructure: means physical structures (facilities and corridors) that form the foundation for development. *Infrastructure* includes; sewage and water systems, septage treatment systems, waste management systems, electric power generation and transmission, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

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*; and
- d) the expansion or conversion of existing buildings.

Large inland lakes: means those waterbodies having a surface area of equal to or greater than 100 square kilometres where there is not a measurable or predictable response to a single runoff event.

Legal or technical reasons: for the purposes of policy 2.3.4.2, means severances for purposes such as easements, corrections of deeds, quit claims, and minor boundary adjustments, which do not result in the creation of a new lot.

Low and moderate income households: means

- a) in the case of ownership housing, households with incomes in the lowest 60 percent of the income distribution for the *regional market area*; or
- b) in the case of rental housing, households with incomes in the lowest 60 percent of the income distribution for renter households for the *regional market area*.

Mine hazard: means any feature of a mine as defined under the *Mining Act*, or any related disturbance of the ground that has not been rehabilitated.

Minerals: means metallic minerals and non-metallic minerals as herein defined, but does not include *mineral aggregate resources* or *petroleum resources*.

Metallic minerals means those minerals from which metals (e.g. copper, nickel, gold) are derived.

Non-metallic minerals means those minerals that are of value for intrinsic properties of the minerals themselves and not as a source of metal. They are generally synonymous with industrial minerals (e.g. asbestos, graphite, kyanite, mica, nepheline syenite, salt, talc, and wollastonite).

Mineral aggregate operation: means

- a) lands under license or permit, other than for *wayside pits and quarries*, issued in accordance with the *Aggregate Resources Act*, or successors thereto;
- b) for lands not designated under the *Aggregate Resources Act*, established pits and quarries that are not in contravention of municipal zoning by-laws and including adjacent land under agreement with or owned by the operator, to permit continuation of the operation; and
- c) associated facilities used in extraction, transport, beneficiation, processing or recycling of *mineral aggregate resources* and derived products such as asphalt and concrete, or the production of secondary related products.

Mineral aggregate resources: means gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other material prescribed under the *Aggregate Resources Act* suitable for construction, industrial, manufacturing and maintenance purposes but does not include metallic ores, asbestos, graphite, kyanite, mica, nepheline syenite, salt, talc, wollastonite, mine tailings or other material prescribed under the *Mining Act*.

Mineral deposits: means areas of identified *minerals* that have sufficient quantity and quality based on specific geological evidence to warrant present or future extraction.

Mineral mining operation: means mining operations and associated facilities, or, past producing mines with remaining mineral development potential that have not been permanently rehabilitated to another use.

Minimum distance separation formulae: means formulae developed by the Province to separate uses so as to reduce incompatibility concerns about odour from livestock facilities.

Multi-modal transportation system: means a transportation system which may include several

forms of transportation such as automobiles, walking, trucks, cycling, buses, rapid transit, rail (such as commuter and freight), air and marine.

Municipal sewage services: means a sewage works within the meaning of Section 1 of the *Ontario Water Resources Act* that is owned or operated by a municipality.

Municipal water services: means a municipal drinking-water system within the meaning of Section 2 of the *Safe Drinking Water Act, 2002*.

Natural heritage features and areas: means features and areas, including *significant wetlands, significant coastal wetlands, fish habitat, significant woodlands* south and east of the Canadian Shield, *significant valleylands* south and east of the Canadian Shield, *significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

Natural heritage system: means a system made up of *natural heritage features and areas*, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state.

Negative impacts: means

- a) in regard to policy 2.2, degradation to the *quality and quantity of water, sensitive surface water features and sensitive ground water features*, and their related *hydrologic functions*, due to single, multiple or successive *development or site alteration* activities;
- b) in regard to *fish habitat*, the harmful alteration, disruption or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the *Fisheries Act*, using the guiding principle of no net loss of productive capacity; and
- c) in regard to other *natural heritage features and areas*, degradation that threatens the health and integrity of the natural features or *ecological functions* for which an area is identified due to single, multiple or successive *development or site alteration* activities.

Normal farm practices: means a practice, as defined in the *Farming and Food Production*

Protection Act, 1998, that is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances; or makes use of innovative technology in a manner consistent with proper advanced farm management practices. Normal farm practices shall be consistent with the *Nutrient Management Act, 2002* and regulations made under that Act.

Oil, gas and salt hazards: means any feature of a well or work as defined under the *Oil, Gas and Salt Resources Act*, or any related disturbance of the ground that has not been rehabilitated.

One hundred year flood: for *river, stream and small inland lake systems*, means that flood, based on an analysis of precipitation, snow melt, 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.

One hundred year flood level: means

- a) for the shorelines of the Great Lakes, the peak instantaneous stillwater level, resulting from combinations of mean monthly lake levels and wind setups, which has a 1% chance of being equalled or exceeded in any given year;
- b) in the connecting channels (St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers), the peak instantaneous stillwater level which has a 1% chance of being equalled or exceeded in any given year; and
- c) 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 setups.

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.

Partial services: means

- a) *municipal sewage services* or *private communal sewage services* and *individual on-site water services*; or
- b) *municipal water services* or *private communal water services* and *individual on-site sewage services*.

Petroleum resource operations: means oil, gas and brine wells, and associated facilities, oil field brine

disposal wells and associated facilities, and facilities for the underground storage of natural gas and other hydrocarbons.

Petroleum resources: means oil, gas, and brine resources which have been identified through exploration and verified by preliminary drilling or other forms of investigation. This may include sites of former operations where resources are still present or former sites that may be converted to underground storage for natural gas or other hydrocarbons.

Planned corridors: means corridors identified through *provincial plans* or preferred alignment(s) determined through the *Environmental Assessment Act* process which are required to meet projected needs.

Portable asphalt plant: means a facility

- a) with equipment designed to heat and dry aggregate and to mix aggregate with bituminous asphalt to produce asphalt paving material, and includes stockpiling and storage of bulk materials used in the process; and
- b) which is not of permanent construction, but which is to be dismantled at the completion of the construction project.

Portable concrete plant: means a building or structure

- a) with equipment designed to mix cementing materials, aggregate, water and admixtures to produce concrete, and includes stockpiling and storage of bulk materials used in the process; and
- b) which is not of permanent construction, but which is designed to be dismantled at the completion of the construction project.

Prime agricultural area: means areas where *prime agricultural lands* predominate. This includes: areas of *prime agricultural lands* and associated Canada Land Inventory Class 4-7 soils; and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. *Prime agricultural areas* may be identified by the Ontario Ministry of Agriculture and Food using evaluation procedures established by the Province as amended from time to time, or may also be identified through an alternative agricultural land evaluation system approved by the Province.

Prime agricultural land: means land that includes *specialty crop areas* and/or Canada Land Inventory Classes 1, 2, and 3 soils, in this order of priority for protection.

Private communal sewage services: means a sewage works within the meaning of Section 1 of the *Ontario Water Resources Act* that serves six or more lots or private residences and is not owned by a municipality.

Private communal water services: means a non-municipal drinking-water system within the meaning of Section 2 of the *Safe Drinking Water Act, 2002* that serves six or more lots or private residences.

Protected heritage property: means real property designated under Parts IV, V or VI of the *Ontario Heritage Act*; heritage conservation easement property under Parts II or IV of the *Ontario Heritage Act*; and property that is the subject of a covenant or agreement between the owner of a property and a conservation body or level of government, registered on title and executed with the primary purpose of preserving, conserving and maintaining a cultural heritage feature or resource, or preventing its destruction, demolition or loss.

Protection works standards: 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 to allow access for their maintenance and repair.

Provincial and federal requirements: means

- a) in regard to policy 1.8.3, legislation and policies administered by the federal or provincial governments for the purpose of protecting the environment from potential impacts associated with energy facilities and ensuring that the necessary approvals are obtained; and
- b) in regard to policy 2.1.5, legislation and policies administered by the federal or provincial governments for the purpose of the protection of *fish and fish habitat*, and related, scientifically established standards such as water quality criteria for protecting lake trout populations.

Provincial plan: means a plan approved by the Lieutenant Governor in Council or the Minister of Municipal Affairs and Housing, but does not include municipal official plans.

Public service facilities: means land, buildings and structures for the provision of programs and services provided or subsidized by a government or other body, such as social assistance, recreation, police and fire protection, health and educational programs, and cultural services. *Public service facilities* do not include *infrastructure*.

Quality and quantity of water: is measured by indicators such as minimum base flow, depth to water table, aquifer pressure, oxygen levels, suspended solids, temperature, bacteria, nutrients and hazardous contaminants, and hydrologic regime.

Recreation: means leisure time activity undertaken in built or natural settings for purposes of physical activity, health benefits, sport participation and skill development, personal enjoyment, positive social interaction and the achievement of human potential.

Redevelopment: means the creation of new units, uses or lots on previously developed land in existing communities, including *brownfield sites*.

Regional market area: refers to an area, generally broader than a lower-tier municipality, that has a high degree of social and economic interaction. In southern Ontario, the upper or single-tier municipality will normally serve as the *regional market area*. Where a *regional market area* extends significantly beyond upper or single-tier boundaries, it may include a combination of upper, single and/or lower-tier municipalities.

Renewable energy systems: means the production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

Reserve sewage system capacity: means design or planned capacity in a centralized waste water treatment facility which is not yet committed to existing or approved development. For the purposes of policy 1.6.4.1(e), reserve capacity for *private communal sewage services* and *individual on-site sewage services* is considered sufficient if the hauled sewage from the development can be treated or disposed of at sites approved under the *Environmental Protection Act* or the *Ontario Water Resources Act*, but not by land-applying untreated, hauled sewage.

Reserve water system capacity: means design or planned capacity in a centralized water treatment facility which is not yet committed to existing or approved development.

Residence surplus to a farming operation: means an existing farm residence that is rendered surplus as a result of farm consolidation (the acquisition of additional farm parcels to be operated as one farm operation).

Residential intensification: means intensification of a property, site or area which results in a net increase in residential units or accommodation and includes:

- a) redevelopment, including the redevelopment of *brownfield sites*;
- b) the development of vacant or underutilized lots within previously developed areas;
- c) infill development;
- d) the conversion or expansion of existing industrial, commercial and institutional buildings for residential use; and
- e) the conversion or expansion of existing residential buildings to create new residential units or accommodation, including accessory apartments, secondary suites and rooming houses.

River, stream and small inland lake systems: means all watercourses, rivers, streams, and small inland lakes or waterbodies that have a measurable or predictable response to a single runoff event.

Rural areas: means lands in the rural area which are located outside *settlement areas* and which are outside *prime agricultural areas*.

Secondary uses: means uses secondary to the principal use of the property, including but not limited to, home occupations, home industries, and uses that produce value-added agricultural products from the farm operation on the property.

Sensitive: in regard to *surface water features* and *ground water features*, means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Sensitive land uses: means buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more *adverse effects* from contaminant discharges generated by a nearby major facility. *Sensitive land uses* may be a part of the natural or built environment. Examples may include, but are not limited to: residences, day care centres, and educational and health facilities.

Settlement areas: means urban areas and rural settlement areas within municipalities (such as cities, towns, villages and hamlets) that are:

- a) built up areas where development is concentrated and which have a mix of land uses; and
- b) lands which have been designated in an official plan for development over the long term planning horizon provided for in policy 1.1.2. In

cases where land in *designated growth areas* is not available, the *settlement area* may be no larger than the area where development is concentrated.

Sewage and water services: includes *municipal sewage services and municipal water services, private communal sewage services and private communal water services, individual on-site sewage services and individual on-site water services, and partial services.*

Significant: means

- a) in regard to *wetlands, coastal wetlands and areas of natural and scientific interest*, an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time;
- b) in regard to the habitat of *endangered species and threatened species*, means the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of *endangered species or threatened species*, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;
- c) in regard to *woodlands*, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history;
- d) in regard to other features and areas in policy 2.1, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or *natural heritage system*;
- e) in regard to *mineral potential*, means an area identified as provincially significant through comprehensive studies prepared using evaluation procedures established by the Province, as amended from time to time, such as the Provincially Significant Mineral Potential Index;
- f) in regard to potential for *petroleum resources*, means an area identified as provincially significant through comprehensive studies prepared using evaluation procedures established by the Province, as amended from time to time; and

- g) in regard to cultural heritage and archaeology, resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people.

Criteria for determining significance for the resources identified in sections (c)-(g) are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used.

While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation.

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.

For the purposes of policy 2.1.3(b), *site alteration* does not include underground or surface mining of *minerals* or advanced exploration on mining lands in *significant areas of mineral potential* in Ecoregion 5E, where advanced exploration has the same meaning as in the *Mining Act*. Instead, those matters shall be subject to policy 2.1.4(a).

Special needs: means any housing, including dedicated facilities, in whole or in part, that is used by people who have specific needs beyond economic needs, including but not limited to, needs such as mobility requirements or support functions required for daily living. Examples of *special needs* housing may include, but are not limited to, housing for persons with disabilities such as physical, sensory or mental health disabilities, and housing for the elderly.

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 to 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*.

Specialty crop area: means areas designated using evaluation procedures established by the province, as amended from time to time, where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

- a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and/or
- b) a combination of farmers skilled in the production of specialty crops, and of capital investment in related facilities and services to produce, store, or process specialty crops.

Surface water feature: refers to water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.

Threatened species: means a species that is listed or categorized as a "Threatened Species" on the Ontario Ministry of Natural Resources' official species at risk list, as updated and amended from time to time.

Transportation systems: means a system consisting of corridors and rights-of way for the movement of people and goods, and associated transportation facilities including transit stops and stations, cycle lanes, bus lanes, high occupancy vehicle lanes, rail facilities, park'n'ride lots, service centres, rest stops, vehicle inspection stations, intermodal terminals, harbours, and associated facilities such as storage and maintenance.

Valleylands: means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year.

Vulnerable: means surface and groundwater that can be easily changed or impacted by activities or events, either by virtue of their vicinity to such activities or events or by permissive pathways between such activities and the surface and/or groundwater.

Waste management system: means sites and facilities to accommodate solid waste from one or more municipalities and includes landfill sites, recycling facilities, transfer stations, processing sites and hazardous waste depots.

Watershed: means an area that is drained by a river and its tributaries.

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.

Wayside pits and quarries: means a temporary pit or quarry opened and used by or for a public authority solely for the purpose of a particular project or contract of road construction and not located on the road right-of-way.

Wetlands: means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens.

Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit wetland characteristics are not considered to be wetlands for the purposes of this definition.

Wildlife habitat: means areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species.

Woodlands: means treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. *Woodlands* include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels.

Notes

APPENDIX G – City of Hamilton Memorandum of Agreement

INTRODUCTION

The Memorandum of Agreement, or Memorandum of Understanding, between the City of Hamilton and the Authority is provided in the following pages. This agreement has been effective since May 13, 1996. For information regarding this agreement, the reader should contact Authority staff for amendments, revisions, or updates thereto.

MEMORANDUM OF AGREEMENT

BETWEEN

The Regional Municipality of Hamilton-Wentworth
(herein referred to as the "Region")

AND

The Hamilton Region Conservation Authority
(herein referred to as the "HRCA")

AND

The Niagara Peninsula Conservation Authority
(herein referred to as the "NPCA")

DATED this 13th day of May, 1996.

1. PURPOSE

- a) The purpose of this Memorandum of Agreement is to describe the framework within which the HRCA and the NPCA will provide specified plan review and technical clearance services to the Region.

2. ROLES AND RESPONSIBILITIES

- a) The Region, the HRCA and the NPCA mutually agree that:
 - i) this Memorandum of Agreement applies to the HRCA and the NPCA and the areas under their jurisdiction which are located in the Regional Municipality of Hamilton-Wentworth;
 - ii) the HRCA and NPCA have the expertise to provide the plan review and technical clearance services to the Region identified in this Memorandum of Agreement and the Region is relying on said expertise. The parties acknowledge that the Region remains the approval authority for those planning applications for which the Region is so designated by statute and which authority has not been otherwise delegated by the Region;
 - iii) nothing in this Memorandum of Agreement precludes either the HRCA or the NPCA from commenting to the Region from a Conservation Authority perspective, as they normally would on an application circulated by the Region under the Planning Act;

- iv) those application types not listed in Appendix A, Schedule 1 (i.e., official plans, policy official plan amendments, comprehensive zoning by-laws, and policy zoning by-law amendments), will still be circulated to the HRCA and the NPCA for comment on these application types from the Conservation Authority perspective;
 - v) the traditional plan review functions delivered through Conservation Authorities for natural hazard matters will continue to be delivered to the Regional Municipality of Hamilton-Wentworth within the annual budget appropriation for this program approved by the Region;
 - vi) this Memorandum of Agreement may be amended by mutual agreement, in writing, from time to time to reflect changes in the programs of parties to this Memorandum of Agreement, or as a result of changes in provincial policies, or as a result of subsequent discussions between the parties hereto; and,
 - vii) any party to this Memorandum of Agreement may terminate the agreement at any time, in writing to all other parties to the agreement, with a minimum of 60 calendar days notice.
- b) The Region commits to:
- i) circulate to the HRCA under this Memorandum of Agreement only those development/planning applications listed in Appendix A, Schedule 1;
 - ii) transfer appropriate policy statements, guidelines, manuals, maps, information, data and criteria from the Region to the HRCA and NPCA, and transfer said material to the HRCA and NPCA as it is received from the Province of Ontario, or make arrangements to have said material transferred directly from the Province to the HRCA and NPCA; and,
 - iii) retain consultants other than the HRCA or the NPCA to provide the plan review and technical clearance services identified in this Memorandum of Agreement, when in the opinion of the Region or the HRCA or the NPCA, utilizing the HRCA or the NPCA as specified in this Memorandum of Agreement could result in a conflict of interest for the HRCA or the NPCA.
- c) The HRCA and the NPCA commit to:
- i) provide the Region with those services listed in Appendix A, Schedule 2 at no extra cost to the Region, i.e., within the annual budget appropriation for the HRCA and NPCA programs approved by the Region;

- ii) provide the Region with those services listed in Appendix A, Schedule 3 on a fee for service basis, mutually agreed upon by the parties to this agreement;
- iii) have the HRCA act as the "one-window" conservation authority for the Region by coordinating information with the NPCA as required prior to providing plan review and technical clearance services to the Region;
- iv) have the HRCA provide comments to the Regional Environment Department on behalf of the HRCA and the NPCA;
- v) have the HRCA provide its comments to the Regional Environment Department within 30 calendar days of receipt of an application from the Region for the following types of applications: consents, site-specific zoning by-law amendments, minor variances, and site plans;
- vi) have the HRCA provide its comments to the Regional Environment Department within 60 calendar days of receipt of an application from the Region for the following types of applications: plan of subdivision/condominium and site-specific local official plan amendment;
- vii) comment on whether the application complies with the Provincial Policy Statement and Guidelines in the plan review services it provides the Region;
- viii) apply all relevant Provincial and Regional operational procedures and guidelines in the plan review and technical clearance services it provides the Region;
- ix) not disseminate any data, maps, information or other documents either received directly from the Province or identified as "Provincial data" by the Region;
- x) disseminate Regional data, maps, information or other documents when requested, only in accordance with Regional policies and procedures; and
- xi) make provision for staff to attend Ontario Municipal Board Hearings, upon the request of Regional staff, with respect to the plan review and technical clearance services provided pursuant to this Memorandum of Agreement, at no extra cost to the Region (i.e., within the annual budget appropriation for the HRCA and NPCA programs approved by the Region).

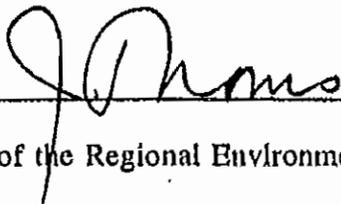
3. TIMEFRAME FOR IMPLEMENTATION

a) This Memorandum of Agreement will take effect on July 1, 1996.

The parties have duly executed this Memorandum of Agreement.

REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH

DATE

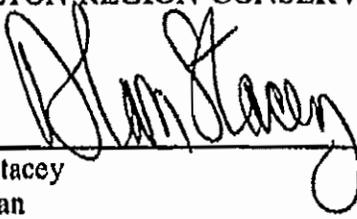


J.D. Thoms
Commissioner of the Regional Environment Department

June 11/96

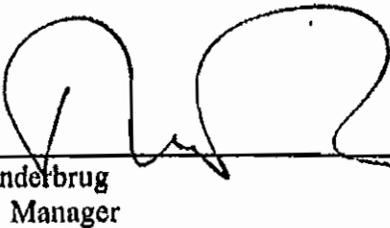
HAMILTON REGION CONSERVATION AUTHORITY

DATE

AS


Allan Stacey
Chairman

June 24/96



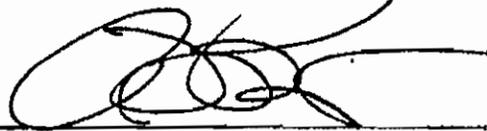
Ben Vanderbrug
General Manager

DATE

June 25/96

NIAGARA PENINSULA CONSERVATION AUTHORITY

DATE



Andrew Burt
Secretary-Treasurer

June 25/96

APPENDIX A -- SCHEDULE 1

CIRCULATION STATUS BY APPLICATION TYPE AND DEFINITIONS

1. The Region advises the HRCA that under this agreement it will circulate the following types of development/planning applications to the HRCA for comment as per the items in Appendix A, Schedules 2 and 3:

- Subdivisions;
- Condominiums;
- Consents;
- Site-Specific Local Official Plan Amendments;
- Site-Specific Zoning By-Law Amendments;
- Minor Variances; and,
- Site Plans.

2. "Plan Review" as defined in Appendix A, Schedules 2 and 3, includes:

- i) screening development applications to determine if and where a Provincial interest may be affected;
- ii) identifying the need for technical reports; and,
- iii) specifying conditions of approval.

3. "Technical Clearance" as defined in Appendix A, Schedules 2 and 3, includes:

- i) assessing technical reports submitted by 'the proponent's consultants to determine if the reports have been prepared in accordance with Provincial guidelines and standards.

SERVICES TO BE PROVIDED BY HRCA AND NPCA TO REGION AT NO EXTRA COST

APPENDIX 'A' - SCHEDULE 2

MINISTRY OF ENVIRONMENT AND ENERGY (MOEE)		LIST OF PLAN REVIEW FUNCTIONS FOR: SUBDIVISIONS/CONDOMINIUMS, CONSENTS, SITE-SPECIFIC LOPAS, SITE-SPECIFIC ZONING BY-LAW AMENDMENTS, MINOR VARIANCES AND SITE PLANS	
DESCRIPTION	PLAN REVIEW	TECHNICAL CLEARANCE	
Review for site specific (off site) stormwater planning issues	X		X
Identify need for and conduct technical review of stormwater management facilities design reports	X		X
Review for sub-watershed planning/master drainage planning	X		

Review for site specific (off site) stormwater planning issues	X		X
Identify need for and conduct technical review of stormwater management facilities design reports	X		X
Review for sub-watershed planning/master drainage planning	X		

SERVICES TO BE PROVIDED BY HRCA AND NPCA TO REGION AT NO EXTRA COST
APPENDIX 'A' - SCHEDULE 2

MINISTRY OF NATURAL RESOURCES (MNR)	LIST OF PLAN REVIEW FUNCTIONS FOR: SUBDIVISIONS/CONDOMINIUMS, CONSENTS, SITE-SPECIFIC LOPAS, SITE-SPECIFIC ZONING BY-LAW AMENDMENTS, MINOR VARIANCES AND SITE PLANS	
DESCRIPTION	PLAN REVIEW	TECHNICAL CLEARANCE
Comment on impact on aggregate resources and identify need for Aggregate Resources Impact Study.	X	
Comment if impact on Petroleum Resources Act	X	
Comment on wayside pits	X	
Comment on hazardous geology	X	
Identify need for and conduct technical review of reports on wetland areas impacts and mitigation measures	X	X
Identify wildlife habitats and comment on wildlife habitat impacts and mitigation measures	X	
Comment on impacts on endangered and threatened species	X	
Comment on and conduct technical review of reports on fish habitat impacts and mitigation (MNR to be consulted if there is a fisheries impact)	X	X

SERVICES TO BE PROVIDED BY HRCA AND NPCA TO REGION AT NO EXTRA COST
APPENDIX 'A' - SCHEDULE 2

MINISTRY OF NATURAL RESOURCES (MNR)	LIST OF PLAN REVIEW FUNCTIONS FOR: SUBDIVISIONS/CONDOMINIUMS, CONSENTS, SITE-SPECIFIC LOPATS, SITE-SPECIFIC ZONING BY-LAW AMENDMENTS, MINOR VARIANCES AND SITE PLANS	
DESCRIPTION	PLAN REVIEW	TECHNICAL CLEARANCE

Identify ANSI's and comment on ANSI impacts and mitigation measures (MNR to be consulted if necessary)	X	
Comment on woodlands impact (Greenlands Study may be used)	X	
Comment on flood hazards	X	
Comment and issue permit for development in floodplains	X	X
Comment on lakes and rivers impacts (except fisheries). MNR to be notified if there is a fisheries impact	X	
Comment on shorelines impact	X	X
Review and comment on top of bank erosion limits	X	X
Identify if Crown Land involved and notify MNR if applicable	X	

SERVICES TO BE PROVIDED BY HRCA AND NPCA TO REGION ON A FEE FOR SERVICE BASIS

APPENDIX 'A' - SCHEDULE 3

MINISTRY OF NATURAL RESOURCES (MNR)		LIST OF PLAN REVIEW FUNCTIONS FOR: SUBDIVISIONS/CONDOMINIUMS, CONSENTS, SITE-SPECIFIC LOPAS, SITE-SPECIFIC ZONING BY-LAW AMENDMENTS, MINOR VARIANCES AND SITE PLANS
DESCRIPTION	PLAN REVIEW	
		TECHNICAL CLEARANCE

Review and comment on impacts on groundwater recharge/discharge areas (where there is a fisheries impact, application will be circulated to MNR)	X	
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**APPENDIX H – Town of Dundas Official Plan
SPA Policies**

INTRODUCTION

The Town of Dundas Official Plan Special Policy Areas Policies are provided in the following pages. These policies have been extracted, word-for-word, from the Town of Dundas Official Plan and should be read in conjunction with the policies found in Policy 2.1.1.4.1 of the HCA Planning & Regulation Policies and Guidelines document. These policies were approved by the Town of Dundas on October 27, 2000 and HCA staff will also refer to any amendments, revisions, or updates thereto. Where a discrepancy exists between this appendix and the Town of Dundas Official Plan policies, the latter shall prevail. For information regarding SPAs, the reader should contact Authority staff.

3.10 Special Policy Areas

3.10.1 Goal

To ensure the ongoing viability of areas of the Town located within the flood plain.

3.10.2 Objective

- 3.10.2.1 To promote development, redevelopment and rehabilitation of built up areas of the Town located within the flood plain which are vital to the Town's continued economic and social viability.
- 3.10.2.2 To establish the location of these areas.
- 3.10.2.3 To establish appropriate criteria to govern development and redevelopment in these areas.

3.10.3 Policies

- 3.10.3.1 **Special Policy Area 1:** Council recognizes the inherent dangers to development in areas subject to flooding and the constraints required to minimize the loss of life and property. Accordingly, the following policies will apply within the Floodplain area shown on Schedule "B-3" as SPECIAL POLICY AREA 1:
 - a) It is the intent of Council to limit development within the Floodplain areas defined by the Hamilton Region Conservation Authority, of Spencer, Ann and Sydenham Creeks. In this regard, the policies of this Sub-section will apply to flood plain areas identified from time to time as "floodway" or "flood fringe" by the above-noted Conservation Authority in consultation with the Town;
 - b) Where a proposal is made for development or redevelopment within or in proximity to SPECIAL POLICY AREA 1, Council will request the proponent to contact the Hamilton Region Conservation Authority to determine if and what flood protection measures are necessary, or other limitations to development;
 - c) It is intended that the "floodway" be kept unobstructed, and free of all structures or the placement of fill;
 - d) Notwithstanding the above, existing and similar uses otherwise complying with the intent of this Plan will be appropriately zoned in the implementing Zoning By-law. However, extensions and enlargements of these uses will not be permitted with the "floodway";
 - e) It is the intent of council that limited development may be permitted within the "flood fringe" subject to protection from flooding. In this regard such protection will include the placement and stabilization of fill to or above the limit of the flooding, identified by the Hamilton Region Conservation Authority, floodproofing, or a combination of both;

- f) Further to clause e) above, housing development may be permitted on lands designated Residential within the “*flood fringe*” subject to the placement and stabilization of fill to, or above the limit of flooding identified by the Hamilton Region Conservation Authority;
- g) Further to clauses e) and f) above, non-residential development within the “*flood fringe*” designation on Schedule “B-3” may be permitted on the basis of limited or no fill and subject to adequate floodproofing;
- h) Paved day-use parking lots may be permitted within the “*flood fringe*” without the necessity of flood protection measures; and,
- i) Further to clause h) above, it is the intent of Council that such setbacks will be reviewed upon completion of any flood control work.

3.10.3.2 **Special Policy Area 2:** Within the area shown on Schedule “B-3” as SPECIAL POLICY AREA 2, only the following uses will be permitted:

- a) Existing uses;
- b) Renovations of existing buildings; and,
- c) Reconstruction of existing buildings and structures which have been destroyed by fire or flood, up to the limits of the floor plate and building envelope existing on the date of approval of this plan.

Major expansions to existing uses, or new development which does not conform to the CONSERVATION / HAZARD LANDS[†] designation shall not be permitted.

3.10.3.3 **Special Policy Area 3:** Within the area identified on Schedule “B-3” as SPECIAL POLICY AREA 3, the following provisions shall apply:

- a) Within Special Policy Area 3, the permitted land uses will be in accordance with the policies of this Plan subject to the requirements set out below;
- b) All development shall be floodproofed to the regulatory flood elevation. Where this is not feasible or practical a lower level of floodproofing may be considered but in no case shall the minimum acceptable level be less than 1.1 m below the regulatory flood elevation;
- c) All new buildings and structures shall be designed such that their structural integrity is maintained during a Regional (or regulatory) flood event. The Town may require that plans for all development within Special Policy Area No. 3 be designed and certified by a qualified professional engineer or architect;
- d) The construction or erection of a building or structure on the footprint of a previous structure which has been destroyed or demolished by fire or other natural causes may be permitted if appropriately zoned in the implementing Zoning By-law subject to the written approval of the Town and of the Hamilton Region Conservation Area;

- e) New development associated with the manufacture and/or bulk storage of substances of a chemical hazardous or toxic nature which may pose an unacceptable threat to public safety damaged as a result of flooding or failure of floodproofing measures, shall not be permitted to locate in the Special Policy Area;
- f) New Nursing homes, hospitals, homes of the aged, senior citizen apartments, group homes for the physically or mentally handicapped, day care centres, or other similar uses for which flooding could pose a significant danger to the inhabitants shall not be permitted to locate in Special Policy Area No. 3;
- g) Parking spaces for permitted commercial or industrial uses may be permitted at lower elevations to be determined by Hamilton Region Conservation Area;
- h) No habitable room shall be located in a basement or cellar;
- i) New building services such as electrical and heating systems should be located above the regulatory flood elevation, but where this is not feasible, building services shall be floodproofed to the Regional (or Regulatory) flood level;
- j) Transition slopes within the limits of a parcel of land that are necessary to match grades with existing streets shall be deemed to conform with the provisions of this Special Policy Area;
- k) Residential development, redevelopment or major renovation/addition to residential structures will be permitted in accordance with existing Official Plan and Zoning By-law provisions provided the structure complies with the minimum floodproofing elevation and:
 - (i) the habitable room elevation of any residential dwelling unit is located above the Regional (or Regulatory) flood level;
 - (ii) safe access and safe parking can be achieved;
 - (iii) mechanical, electrical, heating and air/conditioning equipment are located above the regulatory flood level;
 - (iv) minor renovations/additions to existing buildings used solely for residential purposes shall be permitted in accordance with Hamilton Region Conservation Authority policy provided that in no case the proposed floor level is lower than the existing ground floor level; and,
 - (v) a permit has been secured from the Hamilton Region Conservation Authority.
- l) The Special Policy Area Policies shall be implemented by Council in the following ways:
 - (i) the Zoning By-law, shall attach an "FP" suffix to all lands within the Special Policy Area boundary. The FP suffix indicates that lands are susceptible to flooding and erosion and that the lands are subject to the Hamilton Region Conservation Authority regulations for Fill, Construction and Alteration to Waterways* under the Conservation Authorities Act where by approval of the

Hamilton Region Conservation Authority is required before any development or redevelopment is undertaken;

(ii) site plan control shall be extended to include all lands within this Special Policy Area;

(iii) Site Plan Applications within the Special Policy Area shall not be given final approval until such time as the Hamilton Region Conservation Authority has advised the Town of its endorsement of the floodproofing methods proposed. Approved site plans shall conform to the Hamilton Region Conservation Authority permit with respect to matters governed by Section 41 of The Planning Act such as lot grading and drainage. Upon completion of any new building or structure within the Special Policy Area the Town and/or Hamilton Region Conservation Authority may require a letter of compliance by a professional engineer verifying that the floodproofing measures have been implemented as required and are in conformity with the policies of this plan;

(iv) building permits shall not be issued until such time as the Town of Dundas has been notified that the proposal complies with the fill and construction regulations* of the Hamilton Region Conservation Authority;

(v) the Town will continue to maintain the flood emergency plan and to cooperate with the Hamilton Region Conservation Authority in the operation of a flood warning system; and,

(vi) in the event that Regional and/or 100-year Flood Elevations are significantly revised by the Hamilton Region Conservation Authority, the provisions of this amendment may be reviewed by the Town and Hamilton Region Conservation Authority.

3.10.1.4 Special Policy Area 4: The following policies shall apply to SPECIAL POLICY AREA 4 shown on Schedule "B-3":

- a) Appropriate urban design measures shall be incorporated into submitted site plans which recognize incorporated into submitted site plans which recognize the proximity of the site to the adjacent and nearby wetland areas, as well as the highly visible nature of the site from Cootes Drive, Olympic Drive, King Street and residential areas on the escarpment which generally overlook the site from the north.
- b) Stormwater management techniques including the use of best management practices shall be implemented through the approval of site plans to ensure that post development surface water impacts are minimized with respect to adjacent (Volunteer Marsh) and nearby (Desjardins Canal) wetland areas.
- c) A landscape plan shall be prepared and implemented through the approval of a site plan for all regarded slopes adjacent to the Volunteer Marsh.

- d) Development of the lands within Special Policy Area 4 for the purposes stated in Policy 3.9.4.6 shall be by means of a site specific amendment to Zoning By-law 3581-86 of the Town of Dundas. The Zoning By-law will establish appropriate regulations to guide and control the development of the subject lands. The actual development of the subject lands shall be subject to Site Plan Control.[†]
- e) The rezoning of the subject lands for the ultimate use will be on the basis of Holding Provisions. The objective of the Holding Provisions is to ensure that the requirements under a), b), c), and d) above have been met prior to the removal of the "H" symbol by by-law. The Rezoning by-law shall specify the conditions for removal of the Holding Provision. The timing of the removal of the Holding Provisions would be dependent on meeting the conditions specified in the Holding Provision. Once all conditions specified in the Holding Provision are met, Council may consider passing a By-law to remove the Holding symbol and allow development to take place in accordance with the zoning categories assigned. Specifically, the conditions for removal of the Holding Provision shall include:
- (i) site assessment and remediation in accordance with Provincial guidelines to the satisfaction of the Region; and,
- (ii) review of the Site Plan by the Regionally Environmentally Significant Area Impact Evaluation Group (ESAIEG).

[†] *see Conservation / Hazard Land policies*

* *currently Development, Interference with Wetlands and Alteration to Shorelines and Watercourses (HCA Regulation 161/06 under Ontario Regulation 97/04)*

[†] 3.9.4 Conservation/Hazard Land Policies

- 3.9.4.1 The primary uses permitted in the areas designated on Schedule "A" as CONSERVATION/HAZARD LANDS will be for open spaces, undeveloped parks, public or private recreational uses, conservation uses, pedestrian walkways and bicycle trails and the operations of government agencies where they will not undermine or lead to the deterioration of the special character of the area.
- 3.9.4.2 Within the Parkway Belt West Area, permitted uses will be as set out in Ontario Land Use Regulations 484/73 and 486/73, and the Town's Zoning By-law.
- 3.9.4.3 Within the Niagara Escarpment Plan Area, where development is proposed within the flood and fill regulated areas identified by the Conservation Authority, the provisions of Section 3.9.4 shall apply to the consideration of proposed development.
- 3.9.4.4 Notwithstanding the above, it will not be construed that CONSERVATION/HAZARD LANDS under private ownership will be free and open to the general public, nor will it imply that such lands will necessarily be acquired so as to be in public ownership.

- 3.9.4.5 Notwithstanding the above, where development or redevelopment is proposed on lands within a flood plain or any watercourse identified by the Conservation Authority having jurisdiction, the Town may request the appropriate public authority to consider acquisition. Where acquisition is not contemplated, Council may consider an application for an amendment to the implementing Zoning By-law, subject to the following provisions:
- a) For areas within the flood plain indicated on Schedule "B-3", the provisions of all affected Special Policy Areas contained in Sub-section 3.10 will apply;
 - b) For all other flood plain areas, no building or the placing of or removal of fill will be permitted on the proposed site without the consent of the Conservation Authority having jurisdiction;
 - c) Any grading or change in elevation or change in ground cover on the proposed site which would alter the surface drainage pattern will require the approval of the Conservation Authority having jurisdiction and the Town;
 - d) Appropriate building setbacks may be established from the edge of the watercourse by the Conservation Authority having jurisdiction in consultation with the Town;
 - e) These setbacks will be required to incorporate any flood control and/or floodproofing measures as may be prescribed by the Conservation Authority having jurisdiction; and,
 - f) Any development proposals on CONSERVATION/HAZARD LANDS within the Parkway Belt West Area will be subject to Ontario Land Use Regulations 484/73 and 486/73, and the Town's Zoning By-law.
- 3.9.4.6 Notwithstanding Policy 3.9.4.1, the primary permitted uses on the lands consisting of an area of approximately 2.1 hectares (5.2 acres), situated on the northwest corner of King Street East and Olympic Drive will be for active and passive parks, community centres, public or private recreation uses, conservation uses and other uses which are ancillary and support the primary uses where these uses will not destroy the essential "open space" nature of the land.

APPENDIX I – Geotechnical Report Guidelines

INTRODUCTION

The information provided on the following pages outlines the suggested level of geotechnical investigation required to assess slope stability and geotechnical report guidelines. This information is an excerpt from the Geotechnical Principles for Stable Slopes Appendix (Terraprobe, 1997) within the Technical Guide for River & Stream systems: Erosion Hazard Limit (OMNR, 2002). It is important that detailed geotechnical reports on slope stability contain the necessary information to permit the reader to fully evaluate the existing site conditions, existing hazard lands including the slope stability, possible consequences of failure, the proposed development (referencing specific proposed plans), and any recommendations for slope stabilization, if required. As this is only an excerpt of the OMNR appendix noted above, the reader should refer to this OMNR appendix in its entirety when assessing slope stability. For more information regarding geotechnical report guidelines, the reader should contact Authority staff for amendments, revisions, or updates thereto.

8. SUGGESTED LEVEL OF GEOTECHNICAL INVESTIGATION REQUIRED TO ASSESS SLOPE STABILITY

The following section describes the reasoning and basis for a suggested method of site evaluation to assist regulating agencies within MNR in determining the level of geotechnical investigation required to assess slope stability. In all cases, the responsibility for providing the geotechnical investigation is that of the proponent who might be a land developer, a pit operator, or a government agency. Part of the proposed development may be located close to a slope crest and there may be concerns about risks of ground loss in the event of a slope slide.

The level of geotechnical investigation required to determine the stability of a slope involves an understanding of:

- the physical and hydrological site conditions
- the type of development or land-use proposed, which may be put at risk.

8.1 Physical and Hydrological Site Conditions

Slope stability analysis and the calculation of Factors of Safety, requires certain basic information that can be determined in several manners or can be estimated with reasonable accuracy;

- a) the slope configuration; height and inclination or shape. These can be estimated visually, or determined from topographic mapping, or measured by on-site survey of slope cross-sections (profiles).
- b) the subsurface conditions within the slope; soil stratigraphy (types and layering), soil strengths (density and shear strength), groundwater levels. These can be determined in a general manner by visual inspection of exposed soil on the slope, or on the basis of geologic mapping. More specific information can be obtained by drilling boreholes (unlimited depth), or digging test pits (max. depth 3 to 5 m), or hand auger holes (max. 1 to 2 m depth).
- c) any external loadings to the slope; structures, traffic, earthquakes,
- d) site drainage and erosion conditions; surface run-off, ditches, channels, seepage, creeks, rivers, lakes,
- e) vegetation cover.

The decision to use simple investigation (based on site inspection only) versus a detailed investigation (including boreholes, surveys or mapping) depends mostly on

- the slope height
- the consequence of slope failure on the adjacent land-use.

8.2 Suggested Procedure To Determine The Level of Investigation Required

To assist in determining the suggested level of investigation required, a "Slope Stability Rating Chart" is provided. This Rating Chart can be used by either those reviewing proposals or by a proponent, however a site visit is required to complete the Chart. The Rating Chart must be completed for all slope assessments and be retained by the reviewer. The Rating Chart has 7 components that together provide a reasonable assessment of the slope stability. Some calibration may be required of the values in the chart, on the basis of extensive experience with its use. The 7 components are;

1. **Slope Inclination**
 - The angle from the horizontal of the slope face, measured from the toe to the crest. If the slope is comprised of several different inclinations, provide details on each. Estimate visually, or use hand inclinometer to measure approximate inclination, or survey (also refer to available mapping).
 2. **Soil Stratigraphy**
 - Soil layering and soil types composing the slope. Confirm if visible in bare exposed areas. Refer to previous nearby boreholes or well established local geology. If several soil layers are present, provide details on each.
 3. **Seepage from Slope Face**
 - The quantity and location of groundwater on the slope face. Visually inspect slope for surface seepage (springs, streams, creeks).
 4. **Slope Height**
 - Measurement of the vertical height between the toe (bottom) and the crest (top) of the slope. Estimate visually, or measure by surveying, or refer to available mapping.
 5. **Vegetation Cover on Slope Face**
 - Indication of the type and extent of vegetation cover (trees, grass).
 6. **Table Land Drainage and Gullies**
 - Indication of surface infiltration and run-off over the slope face, which may cause a potential for surface erosion. Describe whether table land drains towards slope and whether drainage/erosion features are present.
 7. **Previous Landslide History**
 - Indicates past instability. Visually inspect slope for evidence or indicators of past instability (scarps, tension cracks, slumped ground, bent or bowed or dead trees, leaning structures such as walls etc.).
- Toe Erosion**
- Recognizes the presence of and potential for continued slope instability. Toe erosion must be eliminated or solved prior to solving slope instability.



The Rating Chart provides a general indication of the stability of a slope. Based on this chart, the level of investigation required, can be assessed. The chart is a guideline or tool only. In all cases, the consequences of slope failure must be carefully considered and may be an over-riding factor. The chart is not intended as a replacement to the judgement of experienced and qualified geotechnical engineers.

The Rating Chart identifies 3 levels of stability and associated investigation requirements. The three levels are:

1. Stable / Site Inspection Only

A rating of 24 or less, suggests stable slope conditions,

- no toe erosion,
- good vegetation cover
- no evidence of past instability
- no structures within $\frac{1}{2}$ (slope height) of the crest

and that no further investigation (beyond visual inspection) is needed. This should be simply confirmed through a visual site inspection and estimate of the slope configuration and slope stratigraphy and drainage (i.e. no measurements). Confirmation of the slope stability should be provided in the form of a letter (signed and sealed with A.P.E.O. stamp) from an experienced and qualified geotechnical engineer. The letter should include a summary of the site inspection observations which could be recorded on a Slope Inspection Form (see enclosed) and should clearly identify;

- slope height and inclination,
- vegetation cover on slope face,
- toe erosion, or surface erosion on slope,
- structures near slope crest or on slope,
- drainage features near slope crest, on slope face, or near slope toe.



2. Slight Potential / Site Inspection, Preliminary Study

A rating between 25-35 suggests the presence of several surface features that could create an unstable slope situation. The stability of the slope should be confirmed through a visual site inspection only, without boreholes. In addition to recording the visual observations outlined in the section above, some direct measurements of site features are required.

The slope height and inclination should be determined either with a hand inclinometer, or by 'breaking slope', or from mapping, or by surveying. As well, more information about the soil stratigraphy of the slope, should be obtained (without drilling boreholes) based on either previous or nearby subsurface investigations, or geologic mapping, or hand augering or test pits to determine shallow depth soil type(s). Measurements should be taken (by hand tape or surveying) of the locations of structures relative to the crest, and other features such as vegetation, past slide features (tension cracks, scarps, slumps, bulges, ridges), and erosion features. If available, historical air photographs should be examined for evidence of any past instability over the long-term. Confirmation of the slope stability should be provided in the form of a detailed report (signed and sealed with A.P.E.O. stamp) from an experienced and qualified geotechnical engineer.

This report will include:

- Slope Inspection Record (Appendix)
- a Site Plan and a Slope Profile indicating the positions of the various measurements taken on site (slope crest, slope toe, location of structures relative to crest, drainage features, erosion features, vegetation cover, indicators of past instability or movements)
- photographs of the site and slope conditions
- a discussion of the site inspection and measurements taken, review of previous information
- preliminary engineering analysis of slope stability (i.e. calculation of Factor of Safety) based on the above information and measurements, but utilizing conservative soil strength parameters and groundwater conditions since boreholes were not carried out.

3. Moderate Potential / Borehole Investigation

A rating of more than 35 suggests a moderate potential for instability. This may result if the slope is either steep, high and/or has several features that could create an unstable slope situation. The stability of the slope should be assessed more precisely through topographic survey of slope configuration and boreholes for slope stratigraphy and penetration resistance tests. Piezometers must be installed in the boreholes and measurements must be taken for groundwater levels. Laboratory testing on the borehole samples must be conducted to measure Basic Index Properties (water contents, unit weights, grain size distribution, Atterberg Limits) described in Appendix D, or other properties as required.

A detailed engineering stability analysis must be conducted to determine if the Factor of Safety for the original slope conditions equals or exceeds a design minimum Factor of Safety. The analysis should be based on the information obtained from the site survey and the borehole information. Historical data such as air photographs should also be reviewed. Confirmation of the slope stability or instability (and the stable slope inclination) should be provided in the form of a detailed report (signed and sealed with A.P.E.O. stamp) from an experienced and qualified geotechnical engineer. This report will include:

- Slope Inspection Record (Appendix)



- a Site Plan and a Slope Profile indicating the positions of the various measurements taken on site (slope crest, slope toe, location of structures relative to crest, drainage features, erosion features, vegetation cover, indicators of past instability or movements)
- photographs of the site and slope conditions
- a discussion of the site inspection and measurements taken, review of previous information
- Borehole logs and piezometer monitoring data
- Laboratory test results (water contents, unit weights, grain size distribution, Atterberg Limits)
- the results of the detailed engineering Stability Analysis (Factors of Safety, failure surfaces, assumed slope data), stabilization alternatives, long-term stable slope inclination.

Where the local geology is well known (exposed stratigraphy or nearby boreholes), the requirement for numbers or depths of boreholes should be reviewed and possibly reduced.

Following is the Slope Stability Rating Chart (see Table 8.1).

TABLE 8.1 - SLOPE STABILITY RATING CHART

Site Location:		File No.	
Property Owner:		Inspection Date:	
Inspected By:		Weather:	
1.	SLOPE INCLINATION degrees a) 18 or less b) 18 - 26 c) more than 26	horiz. : vert. 3 : 1 or flatter 2 : 1 to more than 3 : 1 steeper than 2 : 1	Rating Value 0 6 16
2.	SOIL STRATIGRAPHY a) Shale, Limestone, Granite (Bedrock) b) Sand, Gravel c) Glacial Till d) Clay, Silt e) Fill f) Leda Clay		0 6 9 12 16 24
3.	SEEPAGE FROM SLOPE FACE a) None or Near bottom only b) Near mid-slope only c) Near crest only or, From several levels		0 6 12
4.	SLOPE HEIGHT a) 2 m or less b) 2.1 to 5 m c) 5.1 to 10 m d) more than 10 m		0 2 4 8
5.	VEGETATION COVER ON SLOPE FACE a) Well vegetated; heavy shrubs or forested with mature trees b) Light vegetation; Mostly grass, weeds, occasional trees, shrubs c) No vegetation, bare		0 4 8
6.	TABLE LAND DRAINAGE a) Table land flat, no apparent drainage over slope b) Minor drainage over slope, no active erosion c) Drainage over slope, active erosion, gullies		0 2 4
7.	PROXIMITY OF WATERCOURSE TO SLOPE TOE a) 15 metres or more from slope toe b) Less than 15 metres from slope toe		0 6
8.	PREVIOUS LANDSLIDE ACTIVITY a) No b) Yes		0 6
	SLOPE INSTABILITY RATING	RATING VALUES TOTAL	INVESTIGATION REQUIREMENTS
1.	Low potential	< 24	Site inspection only, confirmation, report letter.
2.	Slight potential	25-35	Site inspection and surveying, preliminary study, detailed report.
3.	Modcrate potential	> 35	Boreholes, piezometers, lab tests, surveying, detailed report.
NOTES:	a) Choose only one from each category; compare total rating value with above requirements. b) If there is a water body (stream, creek, river, pond, bay, lake) at the slope toe; the potential for toe erosion and undercutting should be evaluated in detail and, protection provided if required.		

8.3 Levels of Investigation

If a site slope is higher than 2 m and steeper than 3 to 1 (horiz. to vert.), an assessment of slope stability is warranted. Three basic levels of investigation have been identified, to be used in evaluating slope stability of sites. The Slope Rating Chart above is an aid to determine the appropriate level of investigation for a site, based on the physical features of the site slopes which are important to slope stability (height, inclination, groundwater, etc.).

The results of carrying out a Level 1 or Level 2 investigation may be that a Level 3 investigation is required. In general terms, the levels of investigation have been chosen on a basic premise that low height or gentle slopes can be analyzed sufficiently by general or observational methods, and that as slopes become higher and steeper more rigorous and intensive methods are required. The amount of field investigation increases with each level as follows,

- Level 1 - site visit and inspection by engineer
- Level 2 - site visit and inspection, mapping and site survey/measurements of physical features
- Level 3 - site visit/inspection, mapping/surveying, borehole drilling.

For purposes of comparison only, the approximate engineering fees (1998 \$Cdn.) for evaluating a single house lot on a slope site is estimated as follows;

Level 1	\$ 500 - 1000
Level 2	\$ 1,000 - 2,000
Level 3	\$ 2,500 - 10,000 and up.

Some complex site conditions may result in higher costs for investigation than indicated above.

The following flow chart (see Figure 79) shows the typical steps that are taken in selecting an appropriate level of investigation for slope stability.



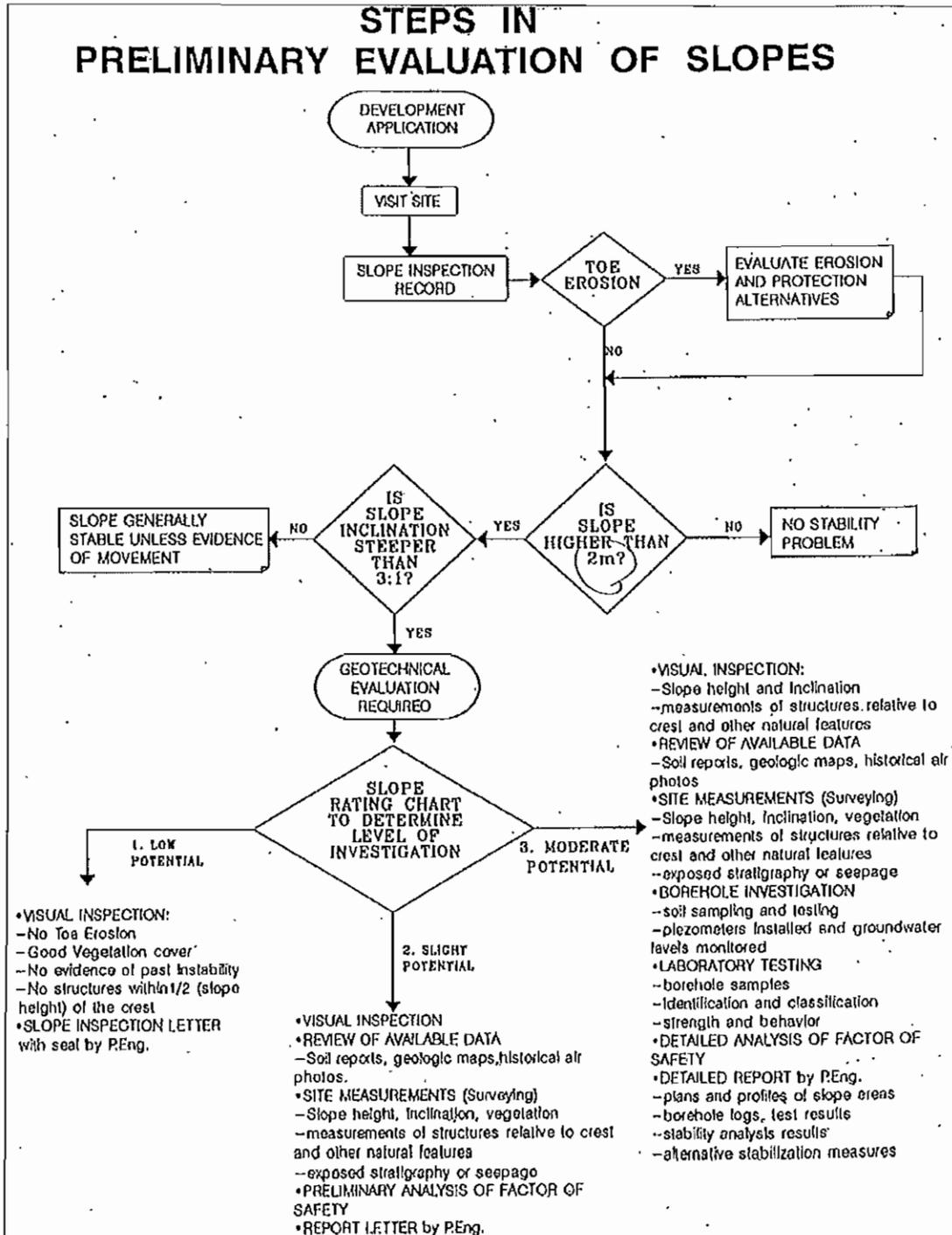


Figure 78 - Preliminary Evaluation Steps



9. GEOTECHNICAL REPORT GUIDELINES

It is important that detailed geotechnical reports on slope stability contain the necessary information to permit the reader to fully evaluate the slope stability and possible consequences of failure. The reports should be as complete as possible in collecting and summarizing all available factual information on a site. The following section describes the typical requirements for detailed geotechnical investigations of slope stability, the general approaches available, and the issues which should be discussed.

9.1 Review of Available Data

Regional geology should be considered at the outset of any slope stability investigation, along with any records of past slope instability situations. MNR geological mapping (bedrock geology and bedrock topography or drift thickness, Quaternary geology (see enclosed Map 2556), and MOE water well records) is available for many areas of the province, including most urbanized centres.

As well, many urbanized areas have had topographic mapping prepared from air photography interpretation and this is often available from the Engineering or Public Works Department in the municipal level government offices. The mapping should preferably be at a scale of 1:500 or 1:1000 in order to show sufficient detail of the slope profile. These government offices sometimes also possess records of historical air photographs which may document conditions of erosion, slope instability, land development, or land filling.

The Metropolitan Toronto Archives (and the University of Toronto, Robarts Library) has such air photographs for the Toronto-centred area which are available from 1947 on almost an annual basis. These air photographs are at a scale of about 1:4800. Conservation Authorities also have files which document past reports of slope failures or erosion.

9.2 Site Inspection and Mapping

As discussed in Section 8, a site inspection is always required when assessing slope stability, which produces an extensive basis of factual information for relatively little cost. A variety of other data including aerial photographs, topographic maps and so on can be used to support the field data.

The completion of the Site Inspection Record from a field investigation is very important because it establishes vital factual information on the slope height, slope inclination, exposed soil stratigraphy (if visible), vegetation cover, structures near the slope, and other important features which are relied on by the stability analysis in attempting to model or simulate the actual forces and strength resistance conditions at a site. A photographic record (still or video) should also be taken of the site slope conditions.

The Site Inspection Record (see next page) has the following components to be recorded about the site. Further description is found on Table 7.4.

- **File No.**
record date and time of inspection, including weather conditions and visibility, site accessibility
- **Site Location**
describe site location with respect to major roads or regional features; provide sketch
- **Watershed**
record name of watershed site is located in
- **Property Ownership**
obtain name and address of property owner, and legal description for property; describe current land-use of site and adjacent properties
- **Slope Data**
record vertical height of slope from toe to crest; describe slope inclination (horiz. to vert. or angle from horizontal) and shape (also provide sketch at end of report and take photographs), whether slope angle is uniform or composite
- **Slope Drainage**
describe locations and amounts of any seepage on the slope face or near the slope crest or toe; note location of any 'piping' if occurring, also provide sketch at end of report and take photographs
- **Slope Soil Stratigraphy**
where visible or exposed, describe soil stratigraphy (location, thickness, colour of soil layers) and soil types (sand, clay, rock) if possible, also show on sketch and take photographs
- **Water Course Features**
indicate location and proximity of any nearby drainage features or water bodies (marshy ground, swale, channel, gully, springs, stream, creek, river, pond, bay, lake), show on sketch
- **Vegetation Cover**
describe location, amount, and types of vegetation cover on the slope (crest, face, toe) and on adjacent properties; show sketches, take photographs; grasses, weeds, shrubs, saplings, trees
- **Structures**
describe location, types, and size of any man-made structures on the slope face or near the slope crest or slope toe; show on sketches, take photographs; buildings, retaining walls, fences, roads, stairs, decks, towers, bridges, buried utilities



- **Erosion Features**
describe location, types, and size of any erosion features on the slope face or near the slope crest or slope toe; show on sketches, take photographs; bare exposed soil, rills, gully, toe erosion, scour, undercutting, piping
- **Slope Slide Features**
describe location, types, and size of any past slope movements on the slope face or near the slope crest or slope toe; show on sketches, take photographs; tension cracks, scarps, slumps, bulges, ridges, bent tree trunks or stands of dead trees
- **Comments**
record any other general observations
- **Plan View Sketch**
show locations of slope crest, toe, structures, vegetation, stratigraphy, seepage, erosion, water course features
- **Profile Sketch**
show slope height, inclination, and shape



APPENDIX J – Cut & Fill Plan Requirements

INTRODUCTION

The information provided on the following pages outlines the necessary cut and fill plan requirements. For information regarding cut and fill plan requirements not indicated in this appendix, the reader should contact Authority staff for amendments, revisions, or updates thereto.

Cut & Fill Plan Requirements

At a minimum, all plans for cut and *fill* operations shall be prepared by a qualified engineer and required to contain the following criteria:

- a. Detailed summary of total *fill* volumes and total cut volumes.
- b. Cross sectional plots to scale showing existing and proposed flood lines and ground areas.
- c. Detailed contour/topographic plan to scale showing existing conditions and proposed works.
- d. Adequate erosion and sediment control measures will be implemented on-site, both during and after construction, and must be in accordance with Section 9 of this document.
- e. A hydraulic analysis may be required as deemed necessary by the *Authority* (i.e. HEC-RAS modelling).
- f. A geotechnical analysis may be required as deemed necessary by the *Authority* (see Appendix I for geotechnical analysis guidelines).

APPENDIX K – Native Trees, Shrubs and Vines

INTRODUCTION

The following pages provide information on native trees, shrubs and vines of the City of Hamilton. This information has been produced by the Hamilton-Halton Watershed Stewardship Program in conjunction with HCA and is a complete listing as of April 7, 2004. For information regarding native, non-invasive species of the City of Hamilton, the reader should contact Authority staff for amendments, revisions, or updates thereto.

Native Trees, Shrubs and Vines

This is a complete list, as of April 7 2004[†], of the native trees, shrubs and vines of the City of Hamilton (formerly the Regional Municipality of Hamilton-Wentworth). The use of native trees, shrubs and vines requires an understanding and appreciation of native plant communities within the bioregion.

The following categories are status ratings for uncommon and rare plant species. The ratings are described in more detail in Anthony G. Goodban's report entitled "The Vascular Plant Flora of the Regional Municipality of Hamilton-Wentworth, Ontario". ~~Native trees, shrubs and vines on this list that are uncommon, rare or include the word "poison" in the name are not recommended for planting.~~

- hw Uncommon in the City of Hamilton (6-10 regional sites)
 HW Rare in the City of Hamilton (1 - 5 regional sites)
 N Rare in Canada
 P Rare in Ontario
 R Rare in the former Ontario Ministry of Natural Resources Central Region

TREES Common Name	Scientific Name	Carolinian Species	Rarity Status
American Basswood	<i>Tilia americana</i>		
American Beech	<i>Fagus grandifolia</i>		
Balsam Fir	<i>Abies balsamea</i>		hw
Balsam Poplar	<i>Populus balsamifera</i>		
Bitternut Hickory	<i>Carya cordiformis</i>	*	
Black Ash	<i>Fraxinus nigra</i>		
Black Gum	<i>Nyssa sylvatica</i>	*	HW NPR
Black Maple	<i>Acer saccharum</i> ssp. <i>nigrum</i>		
Black Oak	<i>Quercus velutina</i>		
Black Spruce	<i>Picea mariana</i>		HW
Black Walnut	<i>Juglans nigra</i>	*	
Black Willow	<i>Salix nigra</i>		
Blue Beech	<i>Carpinus caroliniana</i>		
Brainerd's Hawthorn	<i>Crataegus brainerdii</i>		HW NPR
Bur Oak	<i>Quercus macrocarpa</i>		
Butternut	<i>Juglans cinerea</i>	*	
Canada Plum	<i>Prunus nigra</i>		hw
Chinquapin Oak	<i>Quercus meuhlenbergii</i>		R
Chokecherry	<i>Prunus virginiana</i>		

[†] produced by Hamilton-Halton Watershed Stewardship Program (HHWSP) in conjunction with Hamilton Conservation Authority (HCA).

For more information please contact:
 Hamilton-Halton Watershed Stewardship Program
 c/o Hamilton Conservation Authority
 838 Mineral Springs Rd, PO Box 7099
 Ancaster, ON, L9G 3L3 (905) 648-4427

TREES Common Name	Scientific Name	Carolinian Species	Rarity Status
Cockspur Hawthorn	<i>Crataegus crus-galli</i>		HW
Compact Hawthorn	<i>Crataegus compacta</i>		HW
Dotted Hawthorn	<i>Crataegus punctata</i>		
Downy Hawthorn	<i>Crataegus mollis</i>		HW
Eastern Cottonwood	<i>Populus deltoides</i>	*	
Eastern Hemlock	<i>Tsuga canadensis</i>		
Flowering Dogwood	<i>Cornus florida</i>	*	hw
Hackberry	<i>Celtis occidentalis</i>		HW
Hawthorn	<i>Crataegus calpodendron</i>		hw
Hawthorn	<i>Crataegus chrysoarpa</i>		HW
Hawthorn	<i>Crataegus compta</i>		HW PR
Hawthorn	<i>Crataegus dissona</i>		HW NPR
Hawthorn	<i>Crataegus dodgei</i>		hw NPR
Hawthorn	<i>Crataegus formosa</i>		HW NPR
Hawthorn	<i>Crataegus fulleriana</i>		HW
Hawthorn	<i>Crataegus macracantha</i>		HW
Hawthorn	<i>Crataegus pringlei</i>		hw
Hawthorn	<i>Crataegus pruinosa</i>		hw
Hawthorn	<i>Crataegus scabrida</i>		HW
Hawthorn	<i>Crataegus schuettei</i>		HW
Hawthorn	<i>Crataegus succulenta</i>		
Hill's Oak	<i>Quercus ellipsoidalis</i>		HW NPR
Holmes' Hawthorn	<i>Crataegus holmesiana</i>		hw
Ironwood	<i>Ostrya virginiana</i>		
Juneberry	<i>Amelanchier arborea</i>		
Juneberry	<i>Amelanchier spicata</i>		HW
Large-tooth Aspen	<i>Populus grandidentata</i>		
Manitoba Maple	<i>Acer negundo</i>		
Pin Cherry	<i>Prunus pennsylvanica</i>		
Red Ash, Green Ash	<i>Fraxinus pennsylvanica</i>		
Red Cedar	<i>Juniperus virginiana</i>	*	
Red Elm	<i>Ulmus rubra</i>		
Red Maple	<i>Acer rubrum</i>		
Red Mulberry	<i>Morus rubra</i>	*	HW NPR
Red Oak	<i>Quercus rubra</i>		
Rock Elm	<i>Ulmus thomasi</i>		
Sassafras	<i>Sassafras albidum</i>	*	
Shagbark Hickory	<i>Carya ovata</i>	*	
Showy Mountain-ash	<i>Sorbus decora</i>		HW R
Silver Maple	<i>Acer saccharinum</i>		
Smooth Juneberry	<i>Amelanchier laevis</i>		
Sugar Maple	<i>Acer saccharum</i>		
Swamp White Oak	<i>Quercus bicolor</i>	*	
Sweet Chestnut	<i>Castanea dentata</i>	*	hw NPR
Sweet Pignut Hickory	<i>Carya glabra</i>	*	HW NPR
Sycamore	<i>Platanus occidentalis</i>	*	HW
Tamarack	<i>Larix laricina</i>		

TREES Common Name	Scientific Name	Carolinian Species	Rarity Status
Trembling Aspen	<i>Populus tremuloides</i>		
Tulip Tree	<i>Liriodendron tulipifera</i>	*	HW NPR
Variable Hawthorn	<i>Crataegus macrosperma</i>		
White Ash	<i>Fraxinus americana</i>		
White Birch	<i>Betula papyrifera</i>		
White Cedar	<i>Thuja occidentalis</i>		
White Elm	<i>Ulmus americana</i>		
White Oak	<i>Quercus alba</i>	*	
White Pine	<i>Pinus strobus</i>		
Wild Black Cherry	<i>Prunus serotina</i>		
Wild Crab	<i>Malus coronaria</i>		
Wild Plum	<i>Prunus americana</i>		hw
Witch-hazel	<i>Hamamelis virginiana</i>	*	
Yellow Birch	<i>Betula alleghaniensis</i>		

SHRUBS Common Name	Scientific Name	Carolinian Species	Rarity Status
Alder-leaved Buckthorn	<i>Rhamnus alnifolia</i>		
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>		
American Hazel	<i>Corylus americana</i>		HW
American Yew	<i>Taxus canadensis</i>		
Autumn Willow	<i>Salix serissima</i>		HW
Beaked Hazel	<i>Corylus cornuta</i>		
Bebb's Willow	<i>Salix bebbiana</i>		
Black Huckleberry	<i>Gaylussacia baccata</i>		HW
Black Raspberry	<i>Rubus occidentalis</i>		
Bladdernut	<i>Staphylea trifolia</i>	*	
Bog-rosemary	<i>Andromeda polifolia</i> ssp. <i>glaucophylla</i>		HW
Bunchberry	<i>Cornus canadensis</i>		
Burning Bush	<i>Euonymus atropurpurea</i>	*	HW NPR
Bush-honeysuckle	<i>Diervilla lonicera</i>		
Buttonbush	<i>Cephalanthus occidentalis</i>	*	
Canada Gooseberry	<i>Ribes hirtellum</i>		hw
Chokeberry	<i>Aronia melanocarpa</i>		hw
Common Blackberry	<i>Rubus allegheniensis</i>		
Common Elder	<i>Sambucus canadensis</i>		
Common Juniper	<i>Juniperus communis</i>		HW
Creeping Snowberry	<i>Gaultheria hispidula</i>		HW
Dewberry	<i>Rubus arundelanus</i>		HW
Downy Arrow-wood	<i>Viburnum rafinesquianum</i>		
Dryland Blueberry	<i>Vaccinium pallidum</i>		
Dwarf Juneberry	<i>Amelanchier sanguinea</i>		hw
Dwarf Raspberry	<i>Rubus pubescens</i>		
Fly-honeysuckle	<i>Lonicera canadensis</i>		
Fragrant Sumac	<i>Rhus aromatica</i>		HW R

SHRUBS Common Name	Scientific Name	Carolinian Species	Rarity Status
Grey Dogwood	<i>Cornus foemina</i> spp. <i>racemosa</i>		
Hairy Honeysuckle	<i>Lonicera hirsuta</i>		HW
Heart-leaved Willow	<i>Salix eriocephala</i>		
Highbush Blueberry	<i>Vaccinium corymbosum</i>		hw
Highbush Cranberry	<i>Viburnum trilobum</i>		
Labrador-tea	<i>Ledum groenlandicum</i>		HW
Large Cranberry	<i>Vaccinium macrocarpon</i>		HW
Leatherleaf	<i>Chamaedaphne calyculata</i>		HW
Leatherwood	<i>Dirca palustris</i>		hw
Lowbush Blueberry	<i>Vaccinium angustifolium</i>		
Maple-leaved Viburnum	<i>Viburnum acerifolium</i>		
Meadowsweet	<i>Spiraea alba</i>		
Mountain Holly	<i>Nemopanthus mucronatus</i>		
Mountain Maple	<i>Acer spicatum</i>		
Nannyberry	<i>Viburnum lentago</i>		
New Jersey Tea	<i>Ceanothus americanus</i>		hw
Ninebark	<i>Physocarpus opulifolius</i>		
Northern Dewberry	<i>Rubus flagellaris</i>		HW
Partridge Berry	<i>Mitchella repens</i>		
Pasture Rose	<i>Rosa carolina</i>		
Peach-leaved Willow	<i>Salix amygdaloides</i>		
Pipsissewa	<i>Chimaphila umbellata</i>		
Poison Sumac	<i>Rhus vernix</i>		HW R
Prickly Gooseberry	<i>Ribes cynosbati</i>		
Prickly Wild Rose	<i>Rosa acicularis</i>		HW
Prickly-ash	<i>Zanthoxylum americanum</i>	*	
Purple-flowering Raspberry	<i>Rubus odoratus</i>		
Pussy Willow	<i>Salix discolor</i>		
Raspberry	<i>Rubus pensilvanicus</i>		HW R
Red-berried Elder	<i>Sambucus racemosa</i> spp. <i>pubens</i>		
Red-osier Dogwood	<i>Cornus stolonifera</i>		
Round-leaved Dogwood	<i>Cornus rugosa</i>		
Rydberg's Poison Ivy	<i>Rhus radicans</i> ssp. <i>rydbergii</i>		
Sage-leaved Willow	<i>Salix candida</i>		HW
Sandbar Willow	<i>Salix exigua</i>		
Saskatoon-berry	<i>Amelanchier alnifolia</i>		HW
Shining Willow	<i>Salix lucida</i>		
Silky Dogwood	<i>Cornus amomum</i>		
Skunk Currant	<i>Ribes glandulosum</i>		HW
Slender Willow	<i>Salix petiolaris</i>		
Small Cranberry	<i>Vaccinium oxycoccos</i>		HW
Smooth Wild Rose	<i>Rosa blanda</i>		
Snowberry	<i>Symphoricarpos albus</i>		
Soapberry	<i>Shepherdia canadensis</i>		HW
Southern Arrow-wood	<i>Viburnum recognitum</i>		NP

SHRUBS Common Name	Scientific Name	Carolinian Species	Rarity Status
Speckled Alder	<i>Alnus incana</i>		
Spicebush	<i>Lindera benzoin</i>	*	
Staghorn Sumac	<i>Rhus typhina</i>		
Swamp Birch	<i>Betula pumila</i>		HW
Swamp Black Currant	<i>Ribes lacustre</i>		HW
Swamp Dewberry	<i>Rubus hispidus</i>		HW
Swamp Fly-honeysuckle	<i>Lonicera oblongifolia</i>		HW
Swamp Red Currant	<i>Ribes triste</i>		
Swamp Rose	<i>Rosa palustris</i>		
Sweet Gale	<i>Myrica gale</i>		HW
Upland Willow	<i>Salix humilis</i>		HW
Velvet-leaved Blueberry	<i>Vaccinium myrtilloides</i>		HW
Wild Black Currant	<i>Ribes americanum</i>		
Wild Honeysuckle	<i>Lonicera dioica</i>		
Wild Red Raspberry	<i>Rubus idaeus ssp. melanolasius</i>		
Winterberry	<i>Ilex verticillata</i>		
Wintergreen	<i>Gaultheria procumbens</i>		
Witherod	<i>Viburnum cassinoides</i>		HW

VINES Common Name	Scientific Name	Carolinian Species	Rarity Status
Bristly Greenbrier	<i>Smilax hispida</i>		
Carrion-flower	<i>Smilax lasioneura</i>		
Climbing Bittersweet	<i>Celastrus scandens</i>		
Climbing Poison Ivy	<i>Rhus radicans ssp. negundo</i>		
Moonseed	<i>Menispermum canadense</i>		
Purple Clematis	<i>Clematis occidentalis</i>		hw R
Riverbank Grape	<i>Vitis riparia</i>		
Running Strawberry-bush	<i>Euonymus obovata</i>		
Summer Grape	<i>Vitis aestivalis</i>		
Twinflower	<i>Linnaea borealis</i>		HW
Virgin's Bower	<i>Clematis virginiana</i>		
Virginia Creeper	<i>Parthenocissus inserta</i>		

SOURCES:

1. The Vascular Plant Flora of the Regional Municipality of Hamilton-Wentworth, Ontario, by Anthony G. Goodban, Hamilton Region Conservation Authority, Ancaster, Ontario, September 1995, 86 pp.
2. Trees in Canada, John Laird Farrar, Fitzhenry & Whiteside, Markham, Ontario and Canadian Forest Service, Ottawa, Ontario, 1997, 502 pp.
3. Shrubs in Ontario, James H. Soper and Margaret L. Heimburger, Royal Ontario Museum, Toronto, Ontario, 1990, 495 pp.
4. Carolinian Canada Factsheet #5 produced by The Centre for Land and Water Stewardship, University of Guelph, June, 1994.

APPENDIX L – Wetlands in HCA Watershed

INTRODUCTION

The information provided on the following pages outlines the wetlands evaluated by the Ontario Ministry of Natural Resources (OMNR) as well as unevaluated wetlands recognized within the jurisdiction of the Authority, but is not limited to all wetlands within the HCA watershed. This information has been provided as of June 20, 2006 by OMNR and HCA staff. For information regarding wetlands not indicated in this appendix, the reader should contact Authority staff for amendments, revisions, or updates thereto.

Provincially Significant Wetlands

† denotes wetlands evaluated by the OMNR

Coastal Wetlands

Name	Type	Approximate Hectares in HCA Watershed
Cootes Paradise†	Swamp & Marsh	78.5
Van Wagners Marsh†	Swamp & Marsh	15.9

Inland Wetlands

Name	Type	Approximate Hectares in HCA Watershed
Beverly Swamp Complex	Swamp & Marsh	175.8
Copetown Bog†	Bog & Marsh	12
Fairchild Creek Headwaters Complex†	Swamp & Marsh	0.97
Fletcher Creek Swamp	Swamp & Marsh & Fen	544.3
Hayesland – Christie Wetland Complex	Swamp & Marsh	626.8
Mill (Galt) Creek†	Swamp & Marsh	?
Sheffield – Rockton Complex†	Swamp & Marsh	297.1
Tiffany Creek Headwaters†	Swamp & Marsh	34.4
Valens Reservoir and Swamp	Swamp & Marsh	202.2
Vinemount Swamp	Swamp & Marsh	52.7

Non-Provincially Significant Wetlands (Regionally Significant)

Inland Wetlands

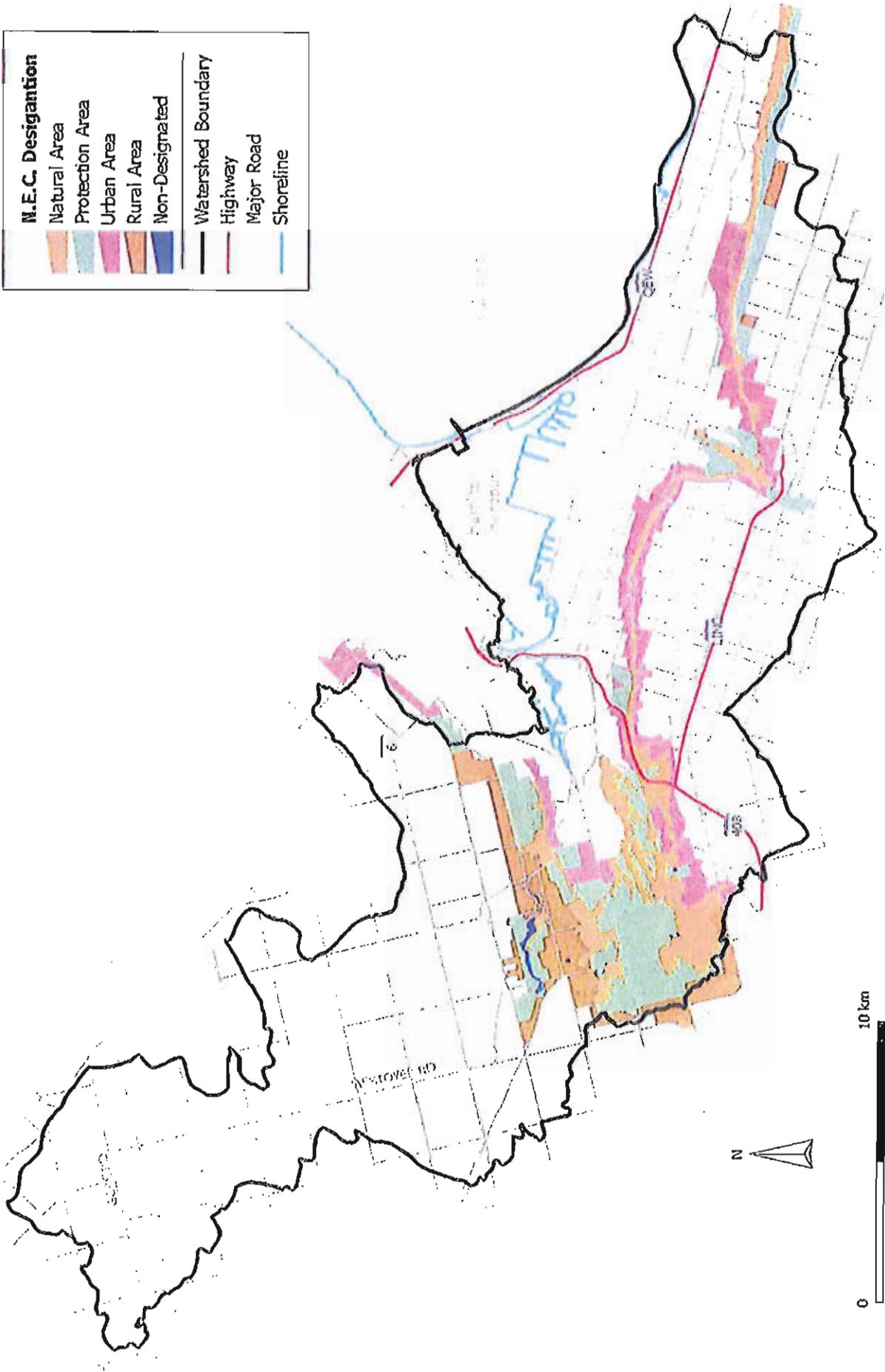
Name	Type	Approximate Hectares in HCA Watershed
Dunmark Lake – Curran's Swamp†	Swamp & Marsh	39.2
Logie's Creek Swamp & Parkside Drive Wetland	Swamp & Marsh	109.6
Unevaluated (Ancaster)	Swamp & Marsh	4.0
Unevaluated (Dundas)	Swamp	0.24
Unevaluated (Flamborough)	Swamp	1.3
Unevaluated (Puslinch)	Swamp	4.7
Westover Swamp	Swamp	Included in Sheffield – Rockton Complex

APPENDIX M – Maps

INTRODUCTION

The maps provided on the following pages include the Niagara Escarpment Commission (NEC) designations, Greenbelt Plan designations, and the Town of Dundas Special Policy Areas. For more detailed information regarding these designations the reader should contact Authority staff for amendments, revisions, or updates thereto.

N.E.C. Designation	
	Natural Area
	Protection Area
	Urban Area
	Rural Area
	Non-Designated
	Watershed Boundary
	Highway
	Major Road
	Shoreline



N.E.C. Designations

Greenbelt Designation

Protected Country

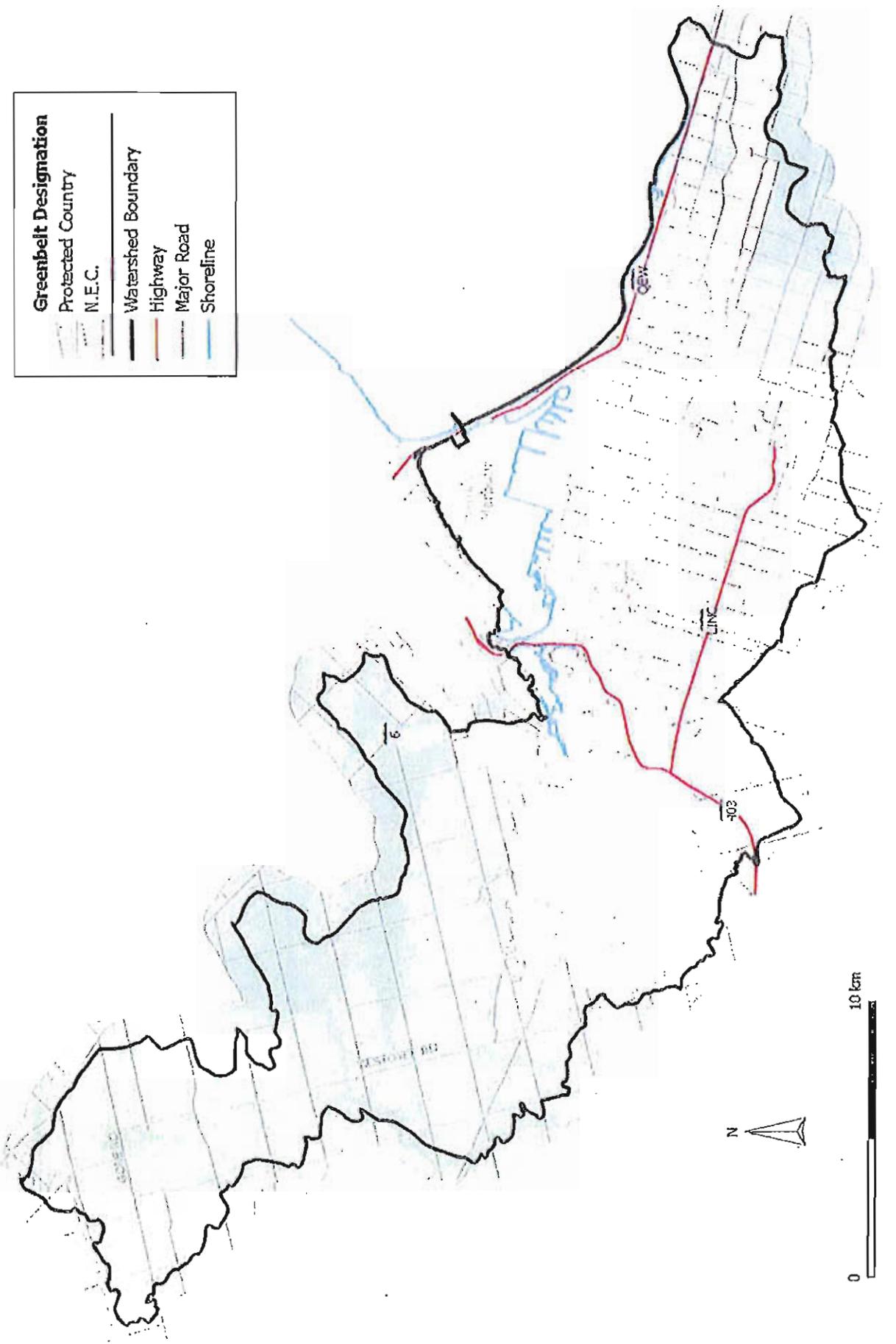
N.E.C.

Watershed Boundary

Highway

Major Road

Shoreline



Greenbelt Designations

Printed at: 8/25/2005

Base Mapping Supplied by The City of Hamilton

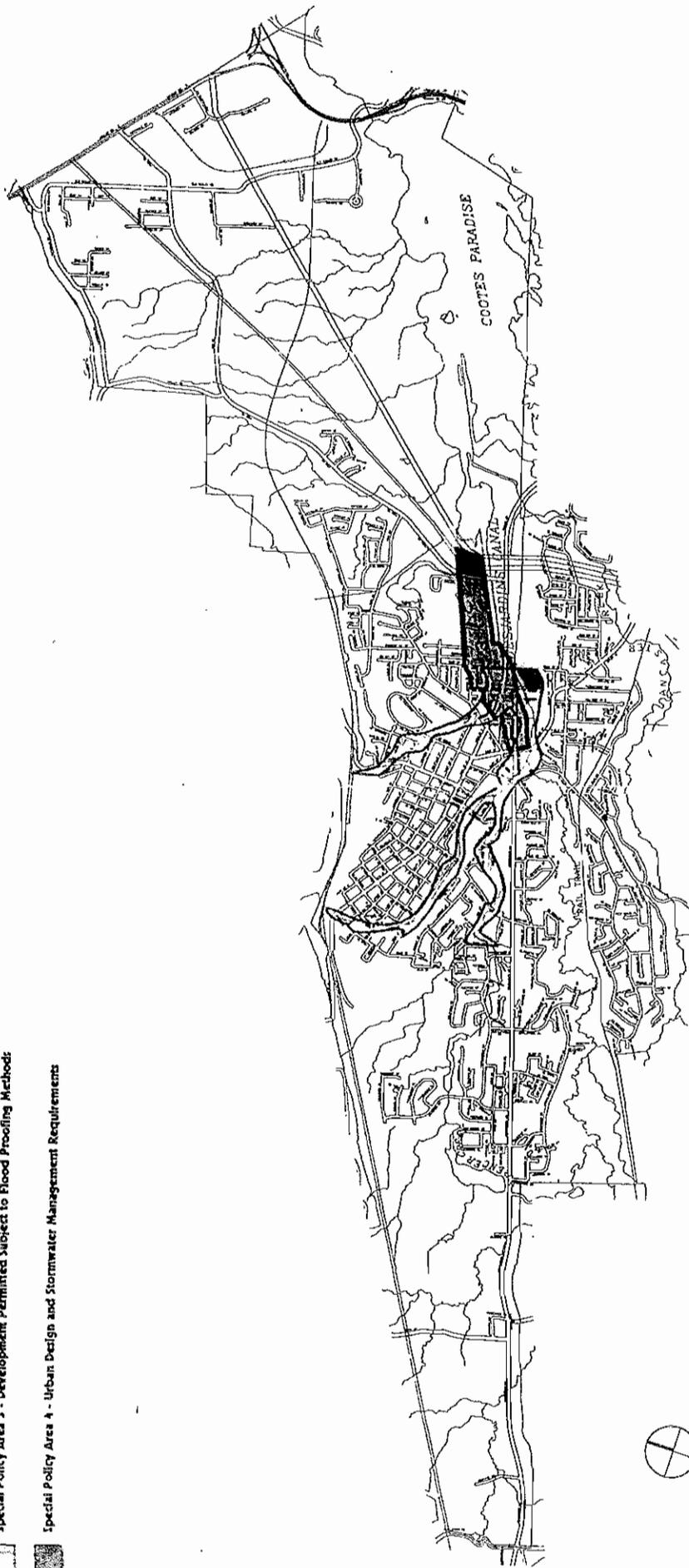


Special Policy Area 1 - Floodplain

Special Policy Area 2 - Renovations to Existing Uses

Special Policy Area 3 - Development Permitted Subject to Flood Proofing Methods

Special Policy Area 4 - Urban Design and Stormwater Management Requirements



SCHEDULE B-3 SPECIAL POLICY AREAS Town of Dundas Official Plan



APPENDIX N – Key Reference Documents

INTRODUCTION

The information on the following page provides the reader with direction on how to find more information on provincial and federal legislation, provincial evaluation systems, natural heritage areas and natural hazard lands, as well as other valuable resources. This information has been provided as of June 28, 2006 by HCA staff. For information regarding key reference documents not indicated in this appendix, the reader should contact Authority staff for amendments, revisions, or updates thereto.

Key Reference Documents

1. Adaptive Management of Stream Corridors in Ontario: Natural Hazards Technical Guides (OMNR, 2001)
2. Conservation Authorities Act:
http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90c27_e.htm
3. Environment Canada – How Much Habitat is Enough Fact Sheet:
<http://www.on.ec.gc.ca/wildlife/factsheets/pdf/fs-howmuchhabitat-e.pdf>
4. Environment Canada – Species at Risk:
<http://www.on.ec.gc.ca/wildlife/sar/designation-e.html#ontariospecieslist>
5. Federal Statutes and Regulations:
<http://laws.justice.gc.ca/>
6. Generic Regulation – Ontario Regulation 97/04:
http://www.e-laws.gov.on.ca/DBLaws/Source/Regs/English/2004/R04097_e.htm
7. Great Lakes-St. Lawrence River System and Large Inland Lakes Technical Guides (OMNR, 2001)
8. Ministry of Agricultural, Food and Rural Affairs – Best Management Practices Series
9. Ministry of the Environment – Watershed-Based Source Protection Planning
<http://www.ene.gov.on.ca/envision/water/spp.htm>
10. Ministry of Municipal Affairs and Housing – Land Use Planning Resources:
http://www.mah.gov.on.ca/userfiles/HTML/nts_1_3077_1.html
11. Ministry of Natural Resources – Natural Heritage Information Centre:
http://nhic.mnr.gov.on.ca/MNR/nhic/areas/areas_jur.cfm
12. Ministry of Natural Resources – Species at Risk:
<http://www.mnr.gov.on.ca/mnr/speciesatrisk/>
13. Ministry of Natural Resources – Understanding Natural Hazards:
<http://www.mnr.gov.on.ca/mnr/water/p766.html>
14. Natural Areas Inventory (Hamilton Naturalist Club, 2003)
15. Natural Heritage Reference Manual (OMNR, 1999)
16. Ontario Statutes and Regulations:
<http://www.e-laws.gov.on.ca/>
17. Remedial Action Plan (RAP) for Hamilton Harbour: <http://www.hamiltonharbour.ca/rap/>

**APPENDIX O – Ministry of Natural Resources &
Conservation Ontario Section 28(3) Conservation
Authorities Act Hearing Guidelines**

INTRODUCTION

The Section 28(3) Conservation Authorities Act Hearing Guidelines, prepared by the Ministry of Natural Resources and Conservation Ontario, is provided in the following pages. This document has been in effect since October 2005. For more information regarding these guidelines, including any amendments, revisions, or updates thereto, the reader should contact Authority staff directly.

SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005



Conservation
ONTARIO
Natural Champions



Ministry of Natural Resources
Ministère des Richesses naturelles

SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005

Peter Krause, Chairman
Conservation Ontario

Gail L. Beggs, Deputy Minister
Ministry of Natural Resources

Section 28 (12), Conservation Authorities Act - Hearing Guidelines

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D.	Notice of Decision - model	

1.0 PURPOSE OF HEARING GUIDELINES:

The purpose of the Hearing Guidelines is to reflect the changes to the 1998 Conservation Authorities Act. The Act requires that the applicant be party to a hearing by the local Conservation Authority Board, or Executive Committee (sitting as a Hearing Board) as the case may be, for an application to be refused or approved with contentious conditions. Further, a permit may be refused if in the opinion of the Authority the proposal adversely affects the control of flooding, pollution or conservation of land, and additional erosion and dynamic beaches. The Hearing Board is empowered by law to make a decision, governed by the Statutory Powers Procedures Act. It is the purpose of the Hearing Board to evaluate the information presented at the hearing by both the Conservation Authority staff and the applicant and to decide whether the application will be approved with or without conditions or refused.

These guidelines have been prepared as an update to the October 1992 hearing guidelines and are intended to provide a step-by-step process to conducting hearings required under Section 28 (12), (13), (14) of the Conservation Authorities Act. Similar to the 1992 guidelines, it is hoped that the guidelines will promote the necessary consistency across the Province and ensure that hearings meet the legal requirements of the Statutory Powers Procedures Act without being unduly legalistic or intimidating to the participants.

2.0 PREHEARING PROCEDURES

2.1 Apprehension of Bias

In considering the application, the Hearing Board is acting as a decision-making tribunal. The tribunal is to act fairly. Under general principles of administrative law relating to the duty of fairness, the tribunal is obliged not only to avoid any bias but also to avoid the appearance or apprehension of bias. The following are three examples of steps to be taken to avoid apprehension of bias where it is likely to arise.

- (a) No member of the Authority taking part in the hearing should be involved, either through participation in committee or intervention on behalf of the applicant or other interested parties with the matter, prior to the hearing. Otherwise, there is a danger of an apprehension of bias which could jeopardize the hearing.
- (b) If material relating to the merits of an application that is the subject of a hearing is distributed to Board members before the hearing, the material shall be distributed to the applicant at the same time. The applicant may be afforded an opportunity to distribute similar pre-hearing material.
- (c) In instances where the Authority (or Executive Committee) requires a hearing to help it reach a determination as to whether to give permission with or without conditions or refuse a permit application, a final decision shall not be made until such time as a hearing is held. The applicant will be given an opportunity to attend the hearing before a decision is made; however, the applicant does not have to be present for a decision to be made.

Individual Conservation Authorities shall develop a document outlining their own practices and procedures relating to the review and reporting of Section 28 applications, including the role of staff, the applicant and the Authority or Executive Committee as well as, the procedures for the hearing itself. Such policy and procedures manual shall be available to the members of the public upon request. These procedures shall have regard for the above information and should be approved by the Conservation Authority Board of Directors.

2.2 Application

The right to a hearing is required where staff is recommending refusal of an application or where there is some indication that the Authority or Executive Committee may not follow staff's recommendation to approve a permit or the applicant objects to the conditions of approval. The applicant is entitled to reasonable notice of the hearing pursuant to the Statutory Powers Procedures Act.

2.3 Notice of Hearing

The Notice of Hearing shall be sent to the applicant within sufficient time to allow the applicant to prepare for the hearing. To ensure that reasonable notice is given, it is recommended that prior to sending the Notice of Hearing, the applicant be consulted to determine an agreeable date and time based on the local Conservation Authority's regular meeting schedule.

The Notice of Hearing must contain the following:

- (a) Reference to the applicable legislation under which the hearing is to be held (i.e., the Conservation Authorities Act).
- (b) The time, place and the purpose of the hearing.
- (c) Particulars to identify the applicant, property and the nature of the application which are the subject of the hearing.

Note: If the applicant is not the landowner but the prospective owner, the applicant must have written authorization from the registered landowner.

- (d) The reasons for the proposed refusal or conditions of approval shall be specifically stated. This should contain sufficient detail to enable the applicant to understand the issues so he or she can be adequately prepared for the hearing.

It is sufficient to reference in the Notice of Hearing that the recommendation for refusal or conditions of approval is based on the reasons outlined in previous correspondence or a hearing report that will follow.

- (e) A statement notifying the applicant that the hearing may proceed in the applicant's absence and that the applicant will not be entitled to any further notice of the proceedings.

Except in extreme circumstances, it is recommended that the hearing not proceed in the absence of the applicant.

- (f) Reminder that the applicant is entitled to be represented at the hearing by counsel, if desired.

It is recommended that the Notice of Hearing be directed to the applicant and/or landowner by registered mail. Please refer to Appendix A for an example Notice of Hearing.

2.4 Presubmission of Reports

If it is the practice of the local Conservation Authority to submit reports to the Board members in advance of the hearing (i.e., inclusion on an Authority/Executive Committee agenda), the applicant shall be provided with the same opportunity. The applicant shall be given two weeks to prepare a report once the reasons for the staff recommendations have been received. Subsequently, this may affect the timing and scheduling of the staff hearing reports.

2.5 Hearing Information

Prior to the hearing, the applicant shall be advised of the local Conservation Authority's hearing procedures upon request.

3.0 HEARING

3.1 Public Hearing

Pursuant to the Statutory Powers Procedure Act, hearings are required to be held in public. The exception is in very rare cases where public interest in public hearings is outweighed by the fact that intimate financial, personal or other matters would be disclosed at hearings.

3.2 Hearing Participants

The Conservation Authorities Act does not provide for third party status at the local hearing. While others may be advised of the local hearing, any information that they provide should be incorporated within the presentation of information by, or on behalf of, the applicant or Authority staff.

3.3 Attendance of Hearing Board Members

In accordance with case law relating to the conduct of hearings, those members of the Authority who will decide whether to grant or refuse the application must be present during the full course of the hearing. If it is necessary for a member to leave, the hearing must be adjourned and resumed when either the member returns or if the hearing proceeds, even in the event of an adjournment, only those members who were present after the member left can sit to the conclusion of the hearing.

3.4 Adjournments

The Board may adjourn a hearing on its own motion or that of the applicant or Authority staff where it is satisfied that an adjournment is necessary for an adequate hearing to be held.

Any adjournments form part of the hearing record.

3.5 Orders and Directions

The Authority is entitled to make orders or directions to maintain order and prevent the abuse of its hearing processes. A hearing procedures example has been included as **Appendix B**.

3.6 Information Presented at Hearings

- (a) The Statutory Powers Procedure Act, requires that a witness be informed of his right to object pursuant to the Canada Evidence Act. The Canada Evidence Act indicates that a witness shall be excused from answering questions on the basis that the answer may be incriminating. Further, answers provided during the hearing are not admissible against the witness in any criminal trial or proceeding. This information should be provided to the applicant as part of the Notice of Hearing.
- (b) It is the decision of the hearing members as to whether information is presented under oath or affirmation. It is not a legal requirement. The applicant must be informed of the above, prior to or at the start of the hearing.
- (c) The Board may authorize receiving a copy rather than the original document. However, the Board can request certified copies of the document if required.
- (d) Privileged information, such as solicitor/client correspondence, cannot be heard. Information that is not directly within the knowledge of the speaker (hearsay), if relevant to the issues of the hearing, can be heard.
- (e) The Board may take into account matters of common knowledge such as geographic or historic facts, times measures, weights, etc or generally recognized scientific or technical facts, information or opinions within its specialized knowledge without hearing specific information to establish their truth.

3.7 Conduct of Hearing

3.7.1 Record of Attending Hearing Board Members

A record shall be made of the members of the Hearing Board.

3.7.2 Opening Remarks

The Chairman shall convene the hearing with opening remarks which generally; identify the applicant, the nature of the application, and the property location; outline the hearing procedures; and advise on requirements of the Canada Evidence Act. Please reference **Appendix C** for the Opening Remarks model.

3.7.3 Presentation of Authority Staff Information

Staff of the Authority presents the reasons supporting the recommendation for the refusal or conditions of approval of the application. Any reports, documents or plans that form part of the presentation shall be properly indexed and received.

Staff of the Authority should not submit new information at the hearing as the applicant will not have had time to review and provide a professional opinion to the Hearing Board.

Consideration should be given to the designation of one staff member or legal counsel who coordinates the presentation of information on behalf of Authority staff and who asks questions on behalf of Authority staff.

3.7.4 Presentation of Applicant Information

The applicant has the opportunity to present information at the conclusion of the Authority staff presentation. Any reports, documents or plans which form part of the submission should be properly indexed and received.

The applicant shall present information as it applies to the permit application in question. For instance, does the requested activity affect the control of flooding, erosion, dynamic beach or conservation of land or pollution? The hearing does not address the merits of the activity or appropriateness of such a use in terms of planning.

- The applicant may be represented by legal counsel or agent, if desired
- The applicant may present information to the Board and/or have invited advisors to present information to the Board
- The applicant(s) presentation may include technical witnesses, such as an engineer, ecologist, hydrogeologist etc.

The applicant should not submit new information at the hearing as the Staff of the Authority will not have had time to review and provide a professional opinion to the Hearing Board.

3.7.5 Questions

Members of the Hearing Board may direct questions to each speaker as the information is being heard. The applicant and /or agent can make any comments or questions on the staff report.

Pursuant to the Statutory Powers Procedure Act, the Board can limit questioning where it is satisfied that there has been full and fair disclosure of the facts presented. Please note that the courts have been particularly sensitive to the issue of limiting questions and there is a tendency to allow limiting of questions only where it has clearly gone beyond reasonable or proper bounds.

3.7.6 Deliberation

After all the information is presented, the Board may adjourn the hearing and retire in private to confer. The Board may reconvene on the same date or at some later date to advise of the Board's decision. The Board members shall not discuss the hearing with others prior to the decision of the Board being finalized.

4.0. DECISION

The applicant must receive written notice of the decision. The applicant shall be informed of the right to appeal the decision within 30 days upon receipt of the written decision to the Minister of Natural Resources.

It is important that the hearing participants have a clear understanding of why the application was refused or approved. The Board shall itemize and record information of particular significance which led to their decision.

4.1 Notice of Decision

The decision notice should include the following information:

- (a) The identification of the applicant, property and the nature of the application that was the subject of the hearing.
- (b) The decision to refuse or approve the application. A copy of the Hearing Board resolution should be attached.

It is recommended that the written Notice of Decision be forwarded to the applicant by registered mail. A sample Notice of Decision and cover letter has been included as Appendix D.

4.2 Adoption

A resolution advising of the Board's decision and particulars of the decision should be adopted.

5.0 RECORD

The Authority shall compile a record of the hearing. In the event of an appeal, a copy of the record should be forwarded to the Minister of Natural Resources/Mining and Lands Commissioner. The record must include the following:

- (a) The application for the permit.
- (b) The Notice of Hearing.
- (c) Any orders made by the Board (e.g., for adjournments).
- (d) All information received by the Board.
- (e) The minutes of the meeting made at the hearing.

- (f) The decision and reasons for decision of the Board.
- (g) The Notice of Decision sent to the applicant

Appendix A

NOTICE OF HEARING

IN THE MATTER OF
The Conservation Authorities Act,
R.S.O. 1990, Chapter 27

AND IN THE MATTER OF an application by

FOR THE PERMISSION OF THE
CONSERVATION AUTHORITY
Pursuant to Regulations made under
Section 28, Subsection 12 of the said Act

TAKE NOTICE THAT a Hearing before the Executive Committee of the Conservation Authority will be held under Section 28, Subsection 12 of the Conservation Authorities Act at the offices of the said Authority (ADDRESS), at the hour of , on the day of , 2001, with respect to the application by (NAME) to permit development within an area regulated by the Authority in order to ensure no adverse affect on *(the control of flooding, erosion, dynamic beaches or pollution or conservation of land/alter or interfere with a watercourse, shoreline or wetland)* on Lot , Plan/Lot , Concession , (Street) in the City of , Regional Municipality of , River Watershed.

TAKE NOTICE THAT you are invited to make a delegation and submit supporting written material to the Executive Committee for the meeting of (meeting number). If you intend to appear, please contact (name) . Written material will be required by (date), to enable the Committee members to review the material prior to the meeting.

TAKE NOTICE THAT this hearing is governed by the provisions of the Statutory Powers Procedure Act. Under the Act, a witness is automatically afforded a protection that is similar to the protection of the Ontario Evidence Act. This means that the evidence that a witness gives may not be used in subsequent civil proceedings or in prosecutions against the witness under a Provincial Statute. It does not relieve the witness of the obligation of this oath since matters of perjury are not affected by the automatic affording of the protection. The significance is that the legislation is Provincial and cannot affect Federal matters. If a witness requires the protection of the Canada Evidence Act that protection must be obtained in the usual manner. The Ontario Statute requires the tribunal to draw this matter to the attention of the witness, as this tribunal has no knowledge of the affect of any evidence that a witness may give.

AND FURTHER TAKE NOTICE that if you do not attend at this Hearing, the Executive Committee of the Conservation Authority may proceed in your absence, and you will not be entitled to any further notice in the proceedings.

DATED the ___ day of , _____200X

The Executive Committee of the
Conservation Authority

Per:

Chief Administrative Officer/Secretary-Treasurer

Appendix B

HEARING PROCEDURES

1. Motion to sit as Hearing Board.
2. Roll Call followed by the Chair's opening remarks.
3. Staff will introduce to the Hearing Board the applicant/owner, his/her agent and others wishing to speak.
4. Staff will indicate the nature and location of the subject application and the conclusions.
5. Staff will present the staff report included in the Authority/Executive Committee agenda.
6. The applicant and/or his/her agent will speak and also make any comments on the staff report, if he/she so desires.
7. The Hearing Board is open to the public and therefore, the Hearing Board will allow others to speak, and, if necessary, the applicant in rebuttal.
8. The Hearing Board will question, if necessary, both the staff and the applicant/agent.
9. The Hearing Board will move into camera.
10. Members of the Hearing Board will move and second a motion.
11. A motion will be carried which will culminate in the decision.
12. The Hearing Board will move out of camera.
13. The Chairman or Acting Chairman will advise the owner/applicant of the Hearing Board decision.
14. If decision is "to refuse", the Chairman or Acting Chairman shall notify the owner/applicant of his/her right to appeal the decision to the Minister of Natural Resources within 30 days of receipt of the reasons for the decision.
15. Motion to move out of Hearing Board and sit as Executive Committee.

Appendix C

CHAIR'S REMARKS WHEN DEALING WITH HEARINGS WITH RESPECT TO ONTARIO REGULATION 158

We are now going to conduct a hearing under section 28 of the Conservation Authorities Act in respect of an application by _____; , for permission to: _____

The Authority has adopted regulations under section 28 of the Conservation Authorities Act which requires the permission of the Authority for development within an area regulated by the Authority in order to ensure no adverse affect on (the control of flooding, erosion, dynamic beaches or pollution or conservation of land) or to permit alteration to a shoreline or watercourse or interference with a wetland.

The Staff has reviewed this proposed work and a copy of the staff report has been given to the applicant.

The Conservation Authorities Act (Section 28 [12]) provides that:

"Permission required under a regulation made under clause (1) (b) or ©) shall not be refused or granted subject to conditions unless the person requesting permission has been given the opportunity to require a hearing before the authority or, if the authority so directs, before the authority's executive committee."

In holding this hearing, the Authority Board/Executive Committee is to determine whether or not a permit is to be issued. In doing so, we can only consider the application in the form that is before us, the staff report, such evidence as may be given and the submissions to be made on behalf of the applicant.

The proceedings will be conducted according to the Statutory Powers Procedure Act. Under Section 5 of the Canada Evidence Act, a witness may refuse to answer any question on the ground that the answer may tend to criminate the person, or may tend to establish his/her liability to a civil proceeding at the instance of the Crown or of any person.

The procedure in general shall be informal without the evidence before it being given under oath or affirmation unless decided by the hearing members.

If the applicant has any questions to ask of the Hearing Board or of the Authority representative, they must be directed to the Chair of the board.

Appendix D

(Date)

BY REGISTERED MAIL

(name)

(address)

Dear:

RE: NOTICE OF DECISION

Hearing Pursuant to Section 28(12) of the Conservation Authorities Act

Proposed Residential Development

Lot, Plan ; ?? Drive City of

(Application #)

In accordance with the requirements of the Conservation Authorities Act, the (name) Conservation Authority provides the following Notice of Decision:

On (*meeting date and number*), the Hearing Board/Authority/Executive Committee refused/approved your application/approved your application with conditions. A copy the Boards/Committee's resolution # has been attached for your records. Please note that this decision is based on the following reasons: (*the proposed development/alteration to a watercourse or shoreline adversely affects the control of flooding, erosion, dynamic beaches or pollution or interference with a wetland or conservation of land*).

In accordance with Section 28 (15) of the Conservation Authorities Act, An applicant who has been refused permission or who objects to conditions imposed on a permission may, within 30 days of receiving the reasons under subsection (14), appeal to the Minister who may refuse the permission; or grant permission, with or without conditions. For your information, should you wish to exercise your right to appeal the decision, a letter by you or your agent/counsel setting out your appeal must be sent within 30 days of receiving this decision addressed to:

The Honourable David Ramsay
Minister of Natural Resources
Queen's Park, Whitney Block
99 Wellesley Street West, 6th Floor, Room 6630
Toronto, Ontario M7A 1W3
TEL:

(416) 314-2301 FAX:
(416) 314-2216

Should you require any further information, please do not hesitate to contact (*staff contact*) or the undersigned.

Yours truly,

Chief Administrative Officer/Secretary Treasurer

Enclosure