



**LOWER THAMES VALLEY
CONSERVATION AUTHORITY**

DRAFT

**REGULATIONS AND PLANNING
POLICY AND PROCEDURE MANUAL**

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1 INTRODUCTION

1.1 PURPOSE OF MANUAL

The need to prepare a comprehensive Policy and Procedure Manual for the Lower Thames Valley Conservation Authority (LTVCA) was in response to the amendments to the Conservation Authorities Act in 2004 and further amendments in 2013, along with the implementation of a new Generic Regulation R.S.O. 152/06, for the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.

The purpose of the Policy and Procedure Manual, taking guidance from Provincial Policy, is to provide local watershed policies which will guide development and site alteration while protecting, preserving and enhancing the natural environment. The policies are based on the interrelationship between environmental, physical and social factors that impact land use planning and development in the watershed.

This manual, approved by the Lower Thames Valley Conservation Authority's Board of Directors, will be implemented by LTVCA staff through the Conservation Authority's Regulations and planning program. It will be used in conjunction with the Operation and Procedural Guidelines which identifies the requirements that will need to be met when seeking planning, regulatory or other forms of approval from the LTVCA. It is envisioned that this Policy and Procedure Manual will be a valuable tool for the LTVCA Board of Directors and staff as well as for the watershed municipalities, the land development industry and the public.

1.2 LAYOUT OF MANUAL

This policy and procedure manual is a living document which will continue to evolve. The policies and implementation requirements contained herein have been formulated using a variety of sources. These include:

- the LTVCA's Policy and Procedures Manual for Fill, Construction and Alteration to Waterways Regulations, R.S.O. 544/84
- the amended Conservation Authorities Act, the enacting Legislation for the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, R.S.O. 152/06 and supporting documents
- the LTVCA's Operational Guidelines for the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, R.S.O. 152/06, as amended
- Watershed-based Fact Sheets
- LTVCA files from past development
- the Provincial Policy Statement (PPS, 2014)
- other CA policies as a guideline and
- relevant provincial technical manuals and guidelines.

The layout of the document is structured to be very general at the beginning and then becomes more detailed further into the document. Section 1 - Introduction provides the reader with a general

overview of the Conservation Authority and its programs. It establishes the purpose of the manual and provides an overview of the watershed and the LTVCA's regulatory activities. Section 2- Environmental Planning - Areas of Interest describes the principles, goals and objectives which guide the Conservation Authority in providing responses to planning matters specific to development issues that may impact on or be impacted by natural hazards. It is anticipated that Sections 1 and 2 will be used by a broad audience including the general public, community organizations and professional staff.

The detailed, technical policies contained in Sections 3, 4 and 5 which pertain to the LTVCA's Municipal Plan Review Process, our Permit Process and our Inquiry Services, as well as the implementation thereof as set out in Section 6, are more complex in nature. It is anticipated that these latter sections will be used primarily by professional staff including land use planners, lawyers, consultants and engineers. For all users, the italicized terms in the manual are defined in the glossary. Further, more detailed information is included in the Appendices to assist development professionals. It is anticipated that additional accepted methodologies, general terms of reference documents and other technical support information will be added to continue to update and improve the Manual. Users should periodically refer to the LTVCA website (www.ltvca.ca) to check on the availability of updates and revisions.

The policies in this manual are intricately interwoven and inter-connected. They should always be read in their entirety. All policies will be reviewed and the most appropriate ones will be applied when reviewing development proposals and/ or applications as they relate to the Authority's Regulations and the Natural Hazard section of the PPS 2014. The Authority will update this manual as needed to incorporate changes in legislation and government policy as well as when the Authority implements other LTVCA programs and services.

1.3 THE LOWER THAMES VALLEY CONSERVATION AUTHORITY

1.3.1 Environmental Commitment & the Watershed Approach

The Lower Thames Valley Conservation Authority (LTVCA) was formed in 1961. The Authority's original water resources mandate and programs have evolved to respond to the issues of our *watershed* municipalities, scientific findings as well as Provincial Policy and Legislation. This includes developing a broad range of watershed management programs and services that engage the community in responding to watershed issues.

The Authority continues to strive towards implementing a watershed or *ecosystem approach* to planning. This approach is consistent with Section 2.2.1 a) of the 2014 Provincial Policy Statement (PPS), which encourages the use of the watershed "as the ecologically meaningful scale for integrated and long-term planning." It is considered to be the most effective and comprehensive systems-based approach for *ecosystem* planning. While this concept has only recently been incorporated into the PPS, the Authority has a long legacy of planning, implementing and monitoring using watershed and *subwatershed* management components. Through the application of this approach, the implications of local management actions and municipal decisions can be evaluated in a watershed context. The watershed approach addresses the fact that water does not respect political boundaries, with the *riparian rights* of downstream communities being considered.

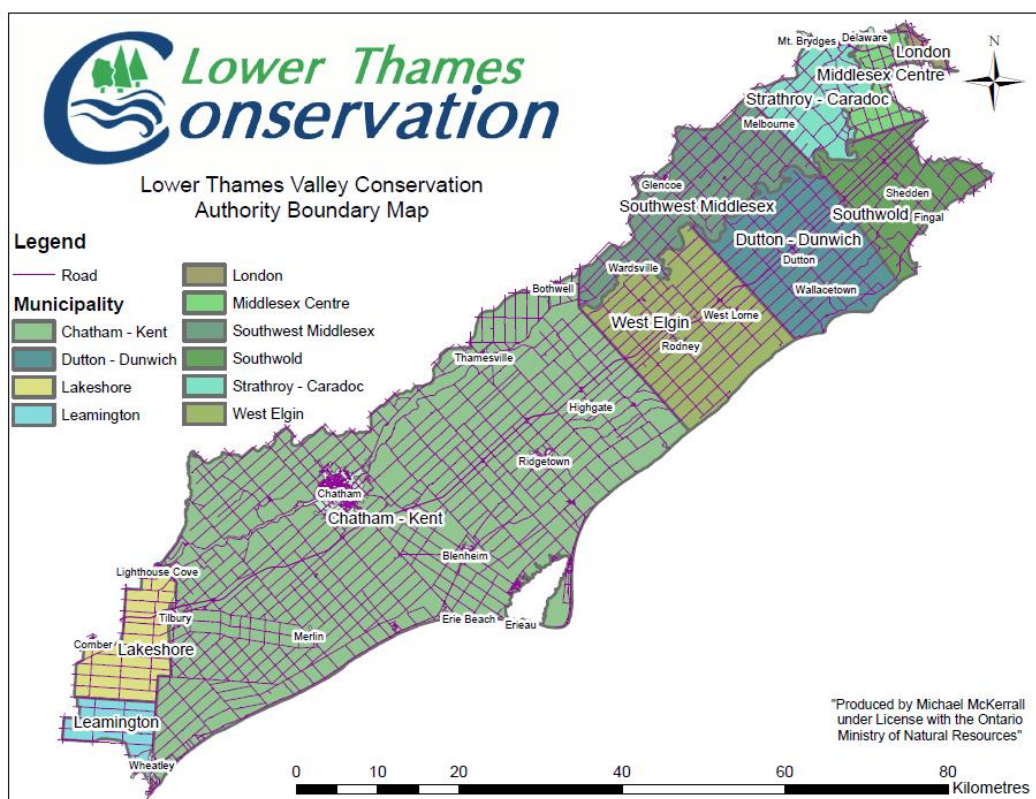
1.3.2 Our Watershed

The Lower Thames Valley Conservation Authority has developed a program to protect and improve the watersheds and subwatersheds of the Lower Thames valley, and portions of the Lake Erie and Lake St. Clair shoreline watersheds with its jurisdiction. The Lower Thames Valley Conservation Authority has jurisdiction of over 3, 275 square kilometers and serves a population of approximately

120,000 across the watershed. Mainstays of the region's economy include agriculture, manufacturing, and tourism. The watershed contains more than twenty subwatersheds, with the Thames River being the main watershed of the Authority, consisting of 273 km of deeply incised faster flowing waters in the easterly portion of the watershed, to slower moving waters in the lower reaches of the system. The Authority's subwatersheds are characterized by a mix of shallow, slow-moving creeks and drains in the lower reaches of the watershed, and faster flowing systems in the upper watersheds that are deeply incised with steep banks. The LTVCA also has approximately 20 kilometres of *shoreline* along Lake St. Clair containing low beach areas, for the most part protected by an extensive dyking system, and 100 km of shoreline along Lake Erie, having several beach areas (Wheatley, Erie Shore Drive, Erieau, Bates Subdivision), and low to moderate bluffs in Chatham-Kent in the west to high bluffs in Elgin County to the east.

The watersheds within the Lower Thames Valley are:

1. St. Clair Watershed- The streams entering Lake St. Clair extending northerly from the Thames River to include the Boyle Drain watershed where it outlets into Lake St. Clair;
2. Thames River Watershed- All streams entering the Thames River from the community of Delaware down to the mouth of the Thames River including Lighthouse Cove and 1km westerly of the cove;
3. Lake Erie Watershed- The streams entering Lake Erie inclusive from the West Branch of Two Creeks watershed in the west to the Talbot Creek watershed in the east.



Lower Thames Valley Conservation's Jurisdiction

1.3.3 Our Planning Approach

The LTVCA's approach for undertaking the Planning Program is to protect the remaining natural resources and where possible undertake restoration and enhancement of additional areas for the

future. The Lower Thames Valley Conservation Authority is committed to achieving the authority's Vision Statement, which states:

The LTVCA....for a balanced and healthy watershed.

Protecting and improving the watershed is a process which occurs through long range, comprehensive policy development and review, plan review activities and regular research and monitoring. It is imperative to involve the community including municipal partners, landowners, technical professionals, other government agencies and advocacy groups.

Five priority areas are:

1. Protect Homes and People from *Floods and Erosion*
2. Protect and Improve Water Quality and Quantity
3. Protect Natural Areas and Enhance Biodiversity
4. Expand Conservation Education
5. Provide Nature Based Recreational Opportunities

Goals include strengthening and expanding our partnerships, deepening our science capacity, being more innovative in our technical approaches and improving communications with the community.

LTVCA staff will consider and apply each of these priority areas when reviewing new policy documents, such as Official Plans or specific project proposals, such as Class Environmental Assessments.

1.4 REGULATORY ACTIVITIES

The LTVCA is involved with the implementation of several statutes and regulations. This Policy Manual focuses on the following two main tools:

- The **Conservation Authorities Act - Under Section 28**, the Authority regulates *development* interference and *site alteration* within the *Regulation Limit*.
- The **Planning Act** - Largely through an advisory role, the Authority provides planning and technical advice to municipalities to assist them with fulfilling their responsibilities under the Planning Act and the Provincial Policy Statement.

The guidance provided in this manual for the implementation of the Conservation Authority's Act and the Planning Act is applicable to all other Acts and Regulations that the LTVCA may be asked to comment on subject to agreements which may form an appendix to this manual.

Conservation Authorities have delegated responsibilities from the Minister of Natural Resources and Forestry to represent provincial interests regarding *natural hazards* identified in Section 3.0, Protecting Public Health and Safety, of the Provincial Policy Statement, 2014 (PPS, 2014). These delegated responsibilities require CAs to review and provide comments on:

- Policy documents (Official Plans and Comprehensive Zoning By-laws); and,
- Applications submitted under the Planning Act as part of the Provincial One-Window Plan Review Service.

Section 3(1) of the Planning Act provides for the issuance of policy statements on matters relating to municipal planning that are of provincial interest (e.g. PPS, 2014). Through the Minister of Natural

Resources and Forestry' delegation letter and accompanying MOU, specific responsibilities have been delegated to CAs to ensure that development application decisions made pursuant to the Planning Act are consistent with the natural hazard policies of the Provincial Policy Statement (PPS), 2014.

The MOU with the Ministry of Municipal Affairs and Housing (MMAH) and the Ministry of Natural Resources and Forestry (MNRF) clarifies the role of Conservation Authorities under the One Window Planning System. Conservation Authorities were delegated natural hazard responsibilities by the Minister of Natural Resources and Forestry in April 1995. Natural hazards include:

- Floodplain management;
- Hazardous slopes;
- Great Lakes shorelines; and
- Unstable soils and erosion

These natural hazards are all encompassed by Section 3.1 "Natural Hazards" of the PPS. In keeping with Section 3(5) of the Planning Act, decisions of Municipal Council, Local Boards, Planning Boards, Ministers of the Crown, Agencies, Boards and Commissions shall be consistent with provincial policy statements in effect and further, that decisions conform to established provincial plans.

1.4.1 The Conservation Authorities Act

Created in 1946, the Conservation Authorities Act provides the legislative basis for actions associated with natural hazard management as undertaken by the LTVCA. Initiated in response to erosion and flooding concerns in the province of Ontario, it 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 allowed for the creation of Conservation Authorities (CA's) and subsequent regulations to control *development, interference with wetlands and alterations to shorelines and watercourses*.

Under Section 28 of the Conservation Authorities Act and subject to O.Reg 97/04, the LTVCA is empowered to prepare regulations and require permits within its area of jurisdiction regarding the following:

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

The following objectives provide the basis for the decision making processes for implementing the Authority's regulation and permit process:

- 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 in watercourse *flood plains* 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 watercourse 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 and ravine systems,
- 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 and degradation of existing and potential *groundwater* aquifer(s) and aquifer recharge areas, created by cut and fill activities, and
- control water pollution, sedimentation, potential flooding and other nuisances due to floating objects and debris.

1.4.2 The Planning Act

The Ontario Planning Act, R.S.O. 1990, sets the general ground rules for managing land use decision making within the province. 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 2014). Of particular interest to Conservation Authorities are Sections 2.0, Wise Use and Management of Resources, and Section 3.0, Protecting Public Health and Safety. These policies outline the Provincial direction for water and natural hazards, although it should be noted that a variety of policy threads run throughout the entire PPS and contains implications for these areas. In consideration of this, while policy sections 2.0 and 3.0 of the PPS are of the greatest immediate relevance to the Conservation Authority, they should not be read in isolation of the remainder of the document.

1.4.2.1 The LTVCA's Role in Planning

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 1990's the Province, through the Ministry of Municipal Affairs and Housing (MMAH), had entered into Memorandum of Understandings (MOUs) with municipalities to delegate this responsibility officially (See Appendix 9.1.1).

Although this delegation provided municipal governments with a greater level of authority than they previously had, it also raised a number of challenges, particularly in the areas of environmental reviews and technical clearances, where they tended to have lesser expertise. Because environmental reviews commonly address issues of natural heritage, natural hazards, and water quality and quantity, it was a natural transition to look to the Conservation Authorities to provide their expertise in these areas.

As a result of this delegation, the City of London, Town of Lakeshore, Municipalities of Chatham-Kent, Dutton/Dunwich, Leamington, Middlesex Centre, Southwest Middlesex, Strathroy-Caradoc, West Elgin and the Township of Southwold circulate development proposals to the LTVCA concerning:

- Official Plan Amendments
- Zoning By-Law Amendments
- Minor Variances
- Consents (severances)
- Subdivisions

- Condominiums
- Site Plan Control

Conservation Authority staff have an informal agreement with the regional partner municipalities to provide plan review services on these applications. The primary function of such reviews is to:

- screen development applications to determine if and where a Provincial interest may be affected in relation to section 2.0 and 3.0 of the Provincial Policy Statement;
- identify areas where the Authorities regulations may impact proposals;
- identify the need for technical reports and studies to be undertaken; and,
- specify conditions of approval.

Through LTVCA's role commenting on various applications, staff consider the following factors:

1. **Delegated Responsibility** – The Minister of Natural Resources and Forestry has delegated responsibility for reviewing and commenting on hazard planning issues to the Conservation Authorities in those areas where Conservation Authorities have been established. This delegation includes interpretation of hazard policies contained in the Provincial Policy Statement.
2. **Watershed Agency** – The LTVCA provides comments to municipalities, consultants and landowners on the implications of development proposals from a watershed perspective. These comments pertain to natural hazard planning or surface water management (quantity and quality). In addition to reflecting the requirements of the Provincial Policy Statement, the LTVCA's comments reflect the Conservation Authority's goals and objectives for the management of the Lower Thames Valley watersheds.
3. **Regulatory Agency** – LTVCA comments identify the Conservation Authority's regulatory role and the potential need for permits.
4. **Landowner** – The Conservation Authority is occasionally involved in the review of a Planning Act application as a proponent or an adjacent landowner. In these rare cases, the Authority must ensure that the comments provided as a landowner are clearly identified and treated separately from our comments as a regulatory and technical agency provided under our other roles.

1.4.2.2 Municipal Plan Review Process

With the exception of participation as a landowner, the various roles of the LTVCA with respect to the implementation of the Planning Act are undertaken through the Municipal Plan Review Process. The areas of interest for the Municipal Plan Review Process are presented in Section 2 of this Manual and the specific policies to guide the review of Planning Act applications are provided in Section 3.

Municipalities are empowered to make most decisions under the Planning Act. They need to satisfy themselves that the decisions that they are making are consistent with Provincial Policy (as outlined in the PPS). The main function of the LTVCA Plan Review Service is to provide planning advice and technical review services to assist municipalities with fulfilling their responsibilities under the Act when they are reviewing and commenting on development and *site alteration* proposals. In providing its comments on Planning Act applications, the Authority considers the requirements of the Planning Act, the PPS, the requirements of other legislation, the Conservation Authority Act and the LTVCA specific policies.

The objectives of the LTVCA's municipal plan review process include:

1. To minimize the potential for loss of life, property damage and social disruption and to create a safer and healthier environment for everyone who lives in the LTVCA watershed and subwatersheds;
2. To reduce the need for public and private expenditures for emergency operations, evacuation and restoration of properties which may be impacted by flooding and erosion;
3. To increase public awareness about the potential risks to development as a result of the physical conditions associated with hazardous areas;
4. To use an ecosystem planning approach for identifying the environmental implications of development applications in order to maintain, protect, preserve and enhance natural heritage resources and avoid natural hazards;
5. To screen development applications and proposals to identify where a Provincial or watershed interest may be impacted;
6. To specify conditions of approval which satisfy the afore noted objectives;
7. To serve as an information centre for inquiries from landowners, potential landowners, lawyers, realtors, municipalities, consultants and community groups interested in environmental legislation, approvals and *stewardship*;
8. To advise and inform potential applicants (and/or their consultants) to consult with LTVCA staff prior to submitting their development proposals in order to identify potential concerns that could result in delays to the planning process, as well as for the need to prepare and submit technical reports and supporting information required to undertake the review and approval of applications;
9. To provide responses to site specific inquiries in a timely manner through the continued expansion of data bases (e.g. natural heritage/natural hazard data bases and inventories) and other information management systems; and
10. To continue to liaise with other Conservation Authorities, agencies, county and municipal governments and departments, consultants, developers and watershed residents to ensure continued co-operation in achieving effective management of our natural resources.

The LTVCA's Municipal Plan Review Process provides decision-makers, applicants and the public with important information regarding the potential impacts and opportunities for mitigation related to development and site alteration.

The specific policies which guide the Municipal Plan Review Process are provided for in Section 3.

1.4.2.3 Integration & Cumulative Effects

The Authority fully supports and advocates an integrated ecosystem or as defined in the PPS, a *natural heritage system* approach to planning for the Lower Thames Valley Watersheds. This system includes *natural heritage features and areas* that are 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.

As previously noted, the PPS recognizes the meaningfulness of planning on a watershed scale with respect to protecting long-term ecological functions, *biodiversity* and the linkages between and among features, systems and areas. The watershed is an integrated system of human and natural resources that needs to be managed in a holistic and balanced way to achieve a healthy and sustainable environment.

The LTVCA encourages municipalities to take a lead role in preparing comprehensive studies on natural heritage, natural hazard and natural resource features and processes on appropriate management scales. While it is preferred that all land use planning decisions be guided by the findings of comprehensive studies, it is recognized that this is not economically feasible or even practical in many cases. The Authority recommends that comprehensive studies be required to support site specific decision making in those cases where development pressure can be anticipated for an area or in those cases where the resource is particularly *significant* or stressed.

The LTVCA's approach to long range planning gives careful consideration to the *cumulative effects* of human activities on the watershed's resources in order to ensure that they are used wisely and effectively, and are preserved for future generations. This approach balances a wide range of public and private interests that may extend beyond a single development site. A precautionary approach is taken in making decisions on development which may have a minimal impact on a case by case basis yet cumulatively and incrementally may have an adverse impact on the resources of the watershed as a whole.

1.4.3 Other legislation

Appendix 9 of this Manual presents other federal and provincial legislation that Authority Staff consider as part of its Permit, Municipal Plan Review and Other Technical Advisory processes. Authority Staff will endeavour to assist applicants in identifying the relevant policies that pertain to their submissions.

The federal legislation, such as the Federal Fisheries Act, can be accessed at www.laws.iustice.qc.ca while the provincial legislation, such as the Public Lands Act, can be accessed at www.e-laws.qov.on.ca.

1.4.4 Request for Information Services

The LTVCA is routinely called upon to provide property information to landowners and other stakeholders. These range from informal telephone inquiries seeking general information about an individual's property to specific requests for information as part of the purchase or sale of property. This information sharing process contributes to the Authority's proactive approach to land use planning and resource management for the watershed. The LTVCA considers its request for information service as an opportunity to provide valuable information and to educate stakeholders about Natural Hazard Policies and Authority Regulation impacts on the subject property. It also provides an indication of the potential limitations on development to a landowner or prospective home-buyer.

It must be understood that as policies change so too will the impacts of the Authority's regulations, change on parcels already commented on in the past. Landowners must understand that policies and ongoing natural hazard processes may change the potential for development as time progresses.

1.4.5 Fees

The LTVCA charges fees for its Regulation and Planning Services. The fees are established on a cost recovery basis, and the benefit received by the applicant from specific types of services. The ability to charge fees is set out in Section 21 (m.1) of the Conservation Authorities Act and the fees are administered in accordance with the MNR Policies and Procedures for the Charging of Conservation Authority Fees (MNR, June 2011).

Within the Regulation and Planning Department, the LTVCA charges fees for the following three areas of service:

1. Section 28 Review & Approval
2. Legal and Realtor Inquiries
3. Consultant Inquiries

1.4.5.1 Levy Services to Municipalities

The LTVCA provides the following services to municipalities as a levy service (no application fee required):

1. Input on and review of comprehensive Official Plans and Zoning By-Laws;
2. Maintenance of mapping and data resources;
3. Expert witness support to municipalities for Ontario Municipal Board Hearings or other proceedings;
4. Review of municipally sponsored applications such as policy and technical amendments/ studies;
5. General inquiries and technical support to municipalities;
6. Development and maintenance of services and technology;
7. Policy development,
8. Identify a need for;
 - Storm Water Management Facilities and Studies;
 - Subwatershed Studies;
 - Comprehensive *Environmental Impact Studies* related to natural heritage features;
 - Studies to assess mitigation measures for applications that may be impacted by flooding or erosion hazards: and
 - Assist in the preparation of the terms of reference for any studies identified above.
9. Participate in pre-consultation meetings for potential planning applications upon the request of the Municipality.

1.4.5.2 Section 28 Review & Approval

In accordance with the Conservation Authorities Act, the LTVCA regulates development within its Regulation Limit as defined in the Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation. In reviewing applications and issuing permits within the Regulation Limit, the Authority considers natural hazard, and water quantity and quality concerns. If Natural Heritage issues are noted, the proponent is referred on to the appropriate agency. The Section 28 Review and Approval Fee Schedules are provided in the Appendix 9.1.2 of this manual. It is reviewed on a regular basis to ensure that the revenue generated is comparable to the operating costs to provide the service.

1.4.5.3 Request for Information Fees

The LTVCA is routinely asked to provide property information to landowners and other stakeholders. Telephone requests for information are answered in a professional manner at no cost. Requests for

written information require more effort, are more valuable to the recipient and therefore, require additional responsibility and care in preparation. As a result, fees are charged for written inquiries and data requests. The fee schedule is reviewed on a regular basis to ensure that the revenue generated is comparable to the operating costs to provide the service (See Appendix 9.1.2).

1.4.5.4 Pre-consultation

Prior to submitting development applications and/ or proposals, applicants should meet with Authority Staff so that any issues and concerns can be identified early on in the planning process. At such time, Staff can advise applicants of the position of the Authority with respect to the proposed development. There may be site conditions and factors that simply will not allow any development to occur.

Through the pre-consultation process staff can also advise on:

- the need for technical studies and supporting information that may be required for the review process; and
- the requirement to obtain a permit under the LTVCA's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.

Development proponents are also encouraged to pre-consult with municipalities and other approval agencies and where applicable, the pre-consultation should occur as a joint meeting.

2 ENVIRONMENTAL POLICY AREAS OF INTEREST

2.1 OVERVIEW

This section outlines the goals and objectives as well as the guiding principles for the LTVCA's area of planning interest which include:

- Natural Hazards
- Servicing & Mitigation
- Integrated Resources & Systems Planning
- Water Quality and Quantity

This framework provides the context for the environmental planning policies which guide the LTVCA's Municipal Plan Review and Regulation Permit Processes that are presented in Sections 3 and 4 respectively.

2.2 NATURAL HAZARDS

2.2.1 Natural Hazards Planning

Natural hazard planning involves planning for risks associated with naturally occurring processes. These risks include the potential for loss of life, property damage, social disruption as well as environmental impacts.

Flood plains, unstable slopes, *shoreline* processes and erosion are examples of naturally occurring hazardous processes. Since it is not possible to eliminate the threat of natural hazards, natural hazard planning is based on a risk management approach. This approach recognizes that there is always a risk associated with natural hazard processes and establishes an appropriate level of risk for society to be exposed too. The minimum standards for acceptable levels of risk to the general public are set by the Province.

The Authority implements natural hazard planning through its Municipal Plan Review and CA Act Section 28 Permit processes. Both of these processes consider the following factors:

- The provision of safe or dry *access (ingress/egress)* for development;
- Appropriate flood proofing measures;
- Appropriate setback allowance from erosion hazards;
- The maintenance of channel capacity and channel conveyance functions;
- Changes in flood storage characteristics;
- The maintenance of existing coastal processes; and
- The potential impacts from development or site alteration in the immediate area and cumulative effects on the system.

Because natural hazards extend across wide geographic areas, they should not be addressed on a piecemeal basis. Rather, they need to be considered as contiguous units using a systems management approach.

2.2.2 Goals & Objectives for Natural Hazards

The following goals and objectives guide the Authority's decision making for natural hazards:

1. To protect life and property from the risks associated with natural hazard processes;
2. To ensure that no new hazards are created by development and site alteration; and
3. To ensure that no adverse environmental impacts will result from development or site alteration in natural hazard areas.

2.2.3 Guiding Principles for Natural Hazards

In making decisions regarding natural hazards, the Authority considers the following guiding principles:

- New development will identify and avoid natural hazards;
- Existing development, limited *infill* development and re-development will locate and characterize the natural hazard(s) and avoid them;
- Development and site alteration for passive public uses will be provided more flexibility because of the public good that may be achieved;
- Recognition that some types of development must locate in the flood plain (e.g. storm outlets, flood control structures and bridges);
- *Fragmentation of hazard lands* will be avoided;
- In considering the natural hazard implications of development and site alteration, natural heritage and other natural resource implications will also be considered; and
- The potential for cumulative effects from individual development and site alteration projects must be anticipated and in this regard, a precautionary approach will be taken when reviewing proposals.

2.2.4 Natural Hazard Features - Overview

As indicated, natural hazards are caused by naturally occurring physical and ecological processes which continuously shape and reshape the landscape. These processes pose risks and problems to society when they are not fully understood or avoided during the planning phase of development. Hazard lands in the Lower Thames Valley Watershed include the following main components:

1. Watercourse Flood Hazards - flood plain
2. Watercourse Erosion Hazards - slopes and *meander belt*
3. Shoreline Flood Hazards - wave uprush flood zone
4. Shoreline Erosion Hazards – dynamic beaches, slopes and recession
5. Wetlands - includes swamps, marshes, and areas that may contain organic soils

The Regulation Limit is the maximum extent of the following areas combined:

- *Watercourse Flood Hazard Limit*, and/or *Shoreline Flood Hazard Limit*, and
- 100 Year Erosion Allowance, and
- *Stable Slope Allowance*, and
- Dynamic Beach, and

- The 15 metre Allowance specified under legislation, and
- The Wetland Boundary, and
- The *Area of Interference* (30 metres- local or 120 metres- provincial) adjacent to all wetlands.

It is recognized that due to the application of standard Allowances and *Areas of Interference*, the Regulation Limit includes lands that may not be directly impacted by natural hazards. It must also be recognized that due to the unpredictability of hazard processes and the variable scale of the information used to identify hazard lands, it is possible that the hazard features extend beyond the Allowances and Areas of Interference mapped. Through the submission of more detailed information about the specific hazard feature and about the development proposal, it is anticipated that a more precise extent of the hazard limit will be determined. Please see the LTVCA's Reference Manual Determination of Regulation Limits.

2.2.5 Environmental Impact Study (EIS) for Natural Hazard lands

In all cases possible, development will be directed away from hazard lands or areas of interference. In cases where development or site alteration is proposed within a natural hazard feature or within the Allowance or Area of Interference it may be required to be supported by an Environmental Impact Study (EIS) or Development Assessment Report (DAR). The EIS/DAR will need to:

- Confirm the extent of the natural hazard feature;
- Identify any potential impact of the development or site alteration on the hazard feature or hazard processes;
- Identify hazard avoidance or hazard mitigation strategies; and
- Integrate natural heritage, natural resource and/or servicing considerations.

The detailed requirements of an EIS/DAR will depend on the nature of the proposed development or site alteration, or the specific characteristics of the natural hazard feature and the extent of encroachment on the hazard feature. Minor projects may only require a *scoped EIS/DAR*. The factors to be considered for a *scoped EIS/DAR* include the extent of the encroachment, the potential impact of the use and the sensitivity of the feature. Major projects involving more complex issues will likely require a *comprehensive EIS/DAR*. The Authority strongly encourages pre-consultation on the requirements of the EIS/DAR.

Please note it is the proponent's responsibility to obtain and pay for any and all necessary studies/ reports/ plans that may be required to support a submission for development/ site alteration.

2.2.6 Specific Natural Hazard Areas

2.2.6.1 Watercourse Flood Hazards

2.2.6.1.1 Watercourse Flood Hazards- Description

The *1:100 year Flood Event* means a high water event that has a probability of occurrence of one per cent during any given year. The flood levels for the Regulatory Flood are calculated using mathematical models which consider historical stream flow, precipitation, climate, watershed conditions, watercourse and flood plain characteristics and flood control systems across the watershed. Some such models include HEC II or HEC RAS Flood Plain Models.

In the case of watercourse flood hazards, the Province has established the minimum Regulatory Flood Standard to be the 1:100 Year Flood Level. Although the 100 Year (1 % risk of occurrence in any given year) is established as the minimum, the Lower Thames Valley Conservation Authority has adopted a 1:250 Year Flood standard for the Thames River Watershed as it is a known event that occurred in April of 1937 on the Thames River system. A 0.3 metre increase in elevation (*freeboard*) is added to the flood level to produce the minimum flood proofing elevation required in all areas identified as flood prone. This freeboard extends and defines the watercourse flood limit, and provides for protection from vehicle/boat generated waves, effects of ice jamming, maintaining floor joists above the known flood level, and ensures that development is being protected and is not negatively impacted on by flooding. Minimum opening(s) into structures must be above the flood proofing elevation and includes the bottom sill of all entryways into residences, basement windows, walkout basement doors, the bottom of crawl space vents / openings, etc.

The LTVCA considers the threshold for Provincial Interest flooding to be a 125 hectare *drainage area*. In this regard, the policies for Watercourse Flood Hazards that are discussed in this manual are generally only applied to those cases where the drainage area of the watershed exceeds 125 hectares. Flooding from smaller drainage areas is generally considered to be localized flooding and the management of these areas is left to the local municipalities. It should be noted that no minimum drainage area is applied to erosion hazards, watercourse interferences or wetlands.

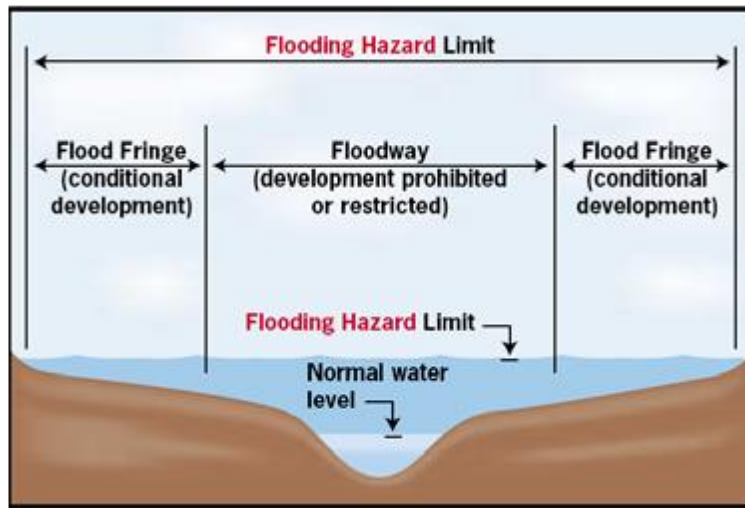
The LTVCA provides technical assistance to municipalities in dealing with the management of local flooding issues. In those cases where the flood flows from a drainage area of less than 125 hectares are significant and affect multiple properties, the Authority, in cooperation with the municipality, may apply flood plain hazard approaches to those specific drainage areas. In all other cases, it is recommended that minimum openings into habitable dwellings / crawl spaces be set at 0.3 m above the centre line of a road, or where a curb has been established, 0.3 m above the roadside concrete curb.

2.2.6.1.2 Flood Hazard Management Approaches

The Authority implements various approaches for managing flood risk as follows:

1. *Two Zone Policy Approach* is applied to all watercourses in the watershed. It separates the flood plain into two main components:

- a) The *Floodway*: The portion of the flood plain that is characterized by deeper, faster moving water in a flood event. The floodway is the more hazardous part of the flood plain and development and site alteration is generally not permitted.
- b) The *Flood Fringe*: The portion of the flood plain that is characterized by shallower, slower moving water in a flood event. The flood fringe is a less hazardous part of the flood plain and development and site alteration may be permitted in this area subject to satisfying specific conditions.



Flood hazard limits for Two-Zone Policy Approach

2. *Special Policy Areas* are specifically identified areas that are **not** protected to the minimum provincial standard. The area must be a viable community that feasibly cannot be protected from the risk of flooding. Through the implementation of a Special Policy Area, the Provincial government may permit certain activities that do not meet the minimum Provincial standards. Special Policy Areas must be supported by the Municipality and the Conservation Authority and must be approved by the Ministers of Natural Resources and Forestry and Municipal Affairs and Housing. Specific policies and considerations that may be established for a Special Policy Area include and may not be limited to such things as:

- No basements, flood proofing to the maximum
- No new severances - no new lots
- No intensification of use
- Preference for residential conversion to commercial type uses
- No day cares, hospitals, nursing homes, emergency services, etc.

2.2.6.1.3 Watercourse Flood Hazards - Determination of Limits

The following requirements are used to identify the limits of watercourse flood hazard areas:

1. *Regulatory Flood Plain* - its limit must be delineated to the satisfaction of the LTVCA. The preferred method of delineation is based on detailed flood plain mapping calculations which incorporates site specific elevation data and specific flow data and variables. In cases where detailed flood plain mapping is not available, the LTVCA reserves the right to require a proponent to determine the flood plain limits using a method that is acceptable to the LTVCA.

The LTVCA has engineered flood plain mapping within the City of Chatham and estimated floodlines for the rest of the Thames River Floodplain. Engineered floodplain mapping also exists for Rondeau Bay flood prone areas. The downstream reaches of the Thames River subject to ice jam flooding have maximum observed flood mapping for flow events less than the Regulatory flood that caused flooding. Other tributaries in the watershed many have mapping done at a standard lower than the new Regulatory floods which the LTVCA may use in absence of mapping at the higher standard.

2. The Floodway - the extent of the floodway may be determined using one of the following methods:

- a) Areas where the depth of flooding exceeds 0.8 metres under 250 Year Flood conditions on the Thames River watershed, and 100 Year Flood conditions on all other watercourses draining to Lake Erie and Lake St. Clair, or where the calculated velocity exceeds 1.7 metres/second.
- b) A detailed hydraulic floodway analysis for a logical reach of the subject watercourse.
- c) As defined in Report for City of Chatham.

3. Watercourse - In accordance with Section 28(25) of the Conservation Authorities Act, a "watercourse" means an identifiable depression in the ground in which a flow of water regularly or continuously occurs. This may include rivers, streams, creeks, ditches and municipal drains. Watercourses may be natural or they may be man-made, as is the case with open municipal drains. Watercourses play a critical role in the drainage of the landscape and any interference with a watercourse could have significant implications for flooding and erosion at the site of interference and for some distance up and downstream.

The LTVCA mapping of the Regulation Limit shows the location of watercourses at a planning area level of detail. Site specific information on the exact location and characteristics of a watercourse may be required as a prerequisite in reviewing any proposed development or site alteration in close proximity to a watercourse. The LTVCA considers open man-made channels and municipal or private drains to be watercourses.

4. Special Policy Areas - In those limited cases where a Special Policy Area is applicable, the limits of the Special Policy Area and its associated policies must be supported by the LTVCA and must be approved by the Municipality, the Ministry of Natural Resources and Forestry and the Ministry of Municipal Affairs and Housing. In cooperation with the municipality, the LTVCA may identify potential Special Policy Areas and implement interim policy requirements for these areas while the formal Special Policy Area review and approval process is underway.

2.2.6.1.4 Watercourse Flood Hazards - Allowance

A 15 metre Allowance is applied on both sides of all watercourses as part of the regulated river or stream cross section.

2.2.6.2 Watercourse Erosion Hazards

2.2.6.2.1 Watercourse Erosion Hazards - Description

Erosion is a natural process which can pose a risk to life and property and cause social disruption. The natural movement of watercourses and valley slopes due to erosion can be aggravated by human activities and the impact of the activity can be transferred some distance from the impact site. The risk of erosion is managed by planning for the *valley top of slope* and where necessary, the *toe erosion allowance* and the stable slope allowance. The extent of the watercourse erosion hazard limit depends on whether the erosion is occurring in a *Confined System* (e.g. well defined valley system) or whether it is an *Unconfined System* (e.g. relatively flat landscape that is not confined or bound by valley walls). In keeping with the hazard avoidance approach of the LTVCA, development and site alteration is generally not permitted in watercourse erosion hazard areas.

2.2.6.2.2 Watercourse Erosion Hazards - Determination of Limits

The LTVCA reserves the right to require a detailed assessment of watercourse erosion hazards as a prerequisite for reviewing any development or site alteration proposal and any such assessment

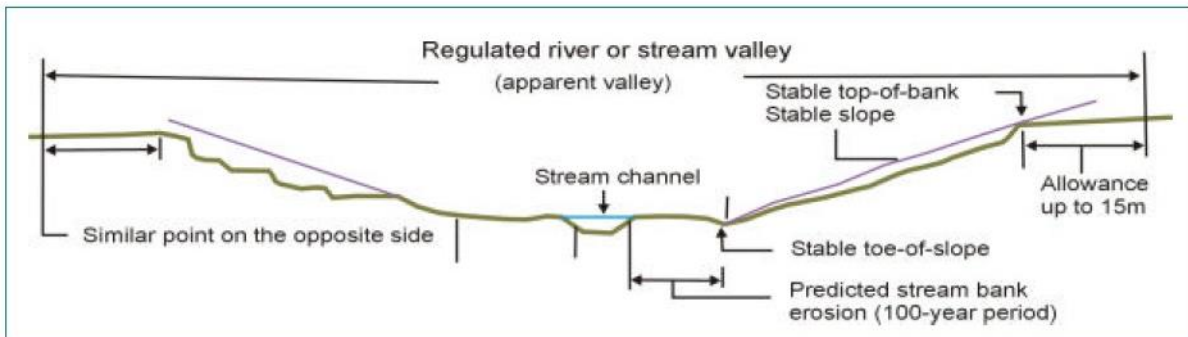
must be undertaken with regard for Provincial Technical guidelines and follow accepted engineering practices to the satisfaction of the LTVCA.

1. The Watercourse Erosion Hazard Limit for Confined Systems is comprised of the combined effect of the following:

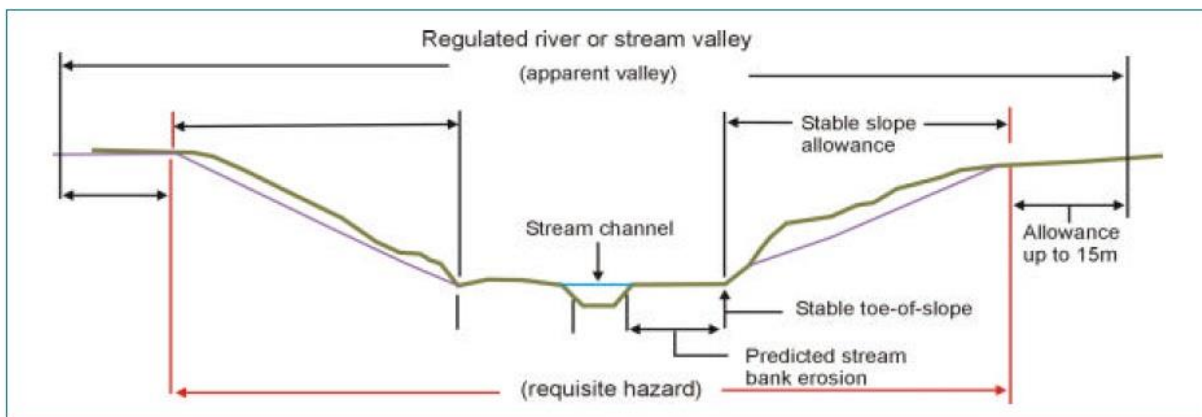
a) Valley Top of Slope - In cases where valley slopes are found to be at a stable angle and not subject to the potential influence of toe erosion, the Valley Top of Slope is the watercourse erosion hazard limit. The Valley Top of Slope is located at the break in slope point between the valley side slope and the tableland. This is known as the 'most noticeable change in slope'.

b) Toe Erosion Allowance - In cases where there is a potential for erosion at the toe of the slope from natural processes, the watercourse erosion hazard limit needs to be shifted to account for the influence of toe erosion. i.e. 100 year erosion allowance.

c) Stable Slope Allowance - In cases where a slope is steeper than its determined stable angle of repose, the watercourse erosion hazard limit needs to be shifted to account for slope movement over time. In the absence of detailed geotechnical information about the slope, the stable slope allowance is based on an assumed *stable slope* gradient of 3 horizontal units to 1 vertical unit (3:1). For slopes having a steeper gradient, 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.

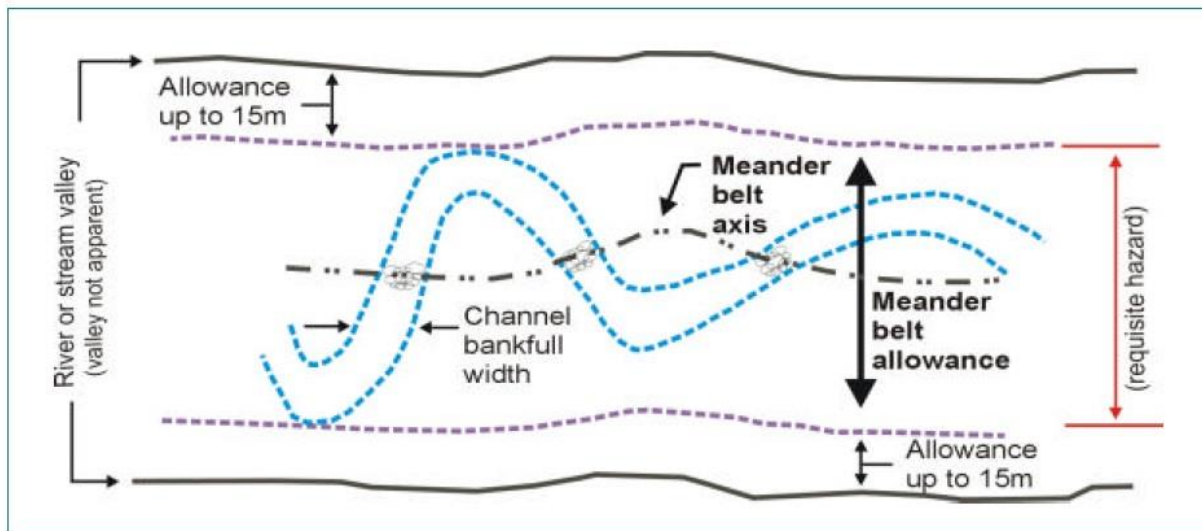


Apparent river or stream valley where the valley slopes are stable



Apparent river or stream valley where the valley slopes are unstable

2. The Watercourse Erosion Hazard Limit for Unconfined Systems consists of the meander belt allowance. In unconfined systems, the watercourse is not contained within a clearly visible valley, and the flow of water is free to shift across the shallower land. However, in the LTVCA's area of jurisdiction, the "typical" meander belt does not occur as there is not enough sustained base flow due to relatively small watersheds to create significant meander belts. Also, the heavy clay soil types typically found in the Lower Thames Valley, and low gradient streams minimize shifting of the watercourse. In addition, many of the watercourses in the Lower Thames Valley have been altered under the provisions of the Drainage Act and other engineering projects. In all cases within the Lower Thames Valley, the Erosion Hazard Limit for confined systems and/or the Flood Hazard Limit, exceed the limit generated by the assessment of the meander belt.



Not Apparent river or stream valley (meander belt)

2.2.6.2.3 Watercourse Erosion Hazard- Allowance

A 15 metre Allowance on both sides is applied to Watercourse Erosion Hazards as part of the regulated river or stream cross section.

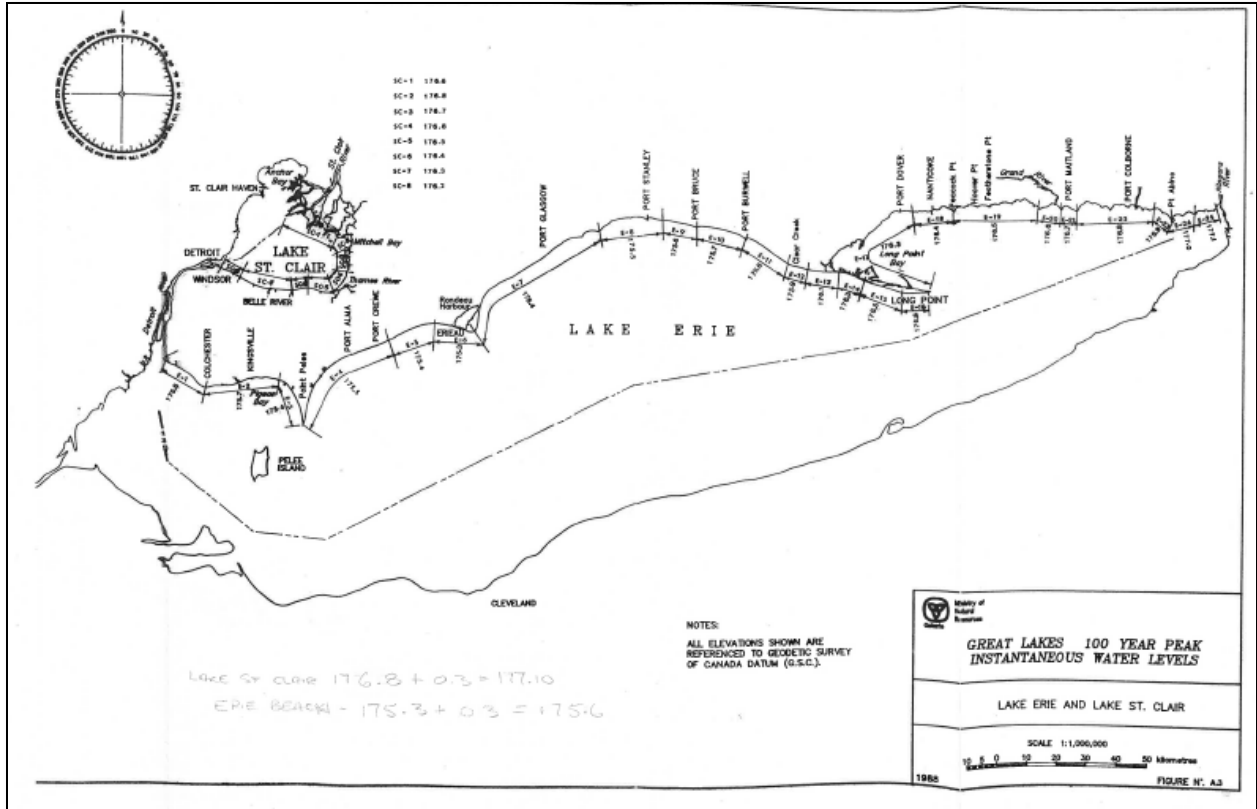
2.2.6.3 Shoreline Flood Hazards

2.2.6.3.1 Shoreline Flood Hazards- Description

The shoreline refers to the furthest landward limit bordering a large body of water. For the Lower Thames Valley's area of jurisdiction, Lake St. Clair and Lake Erie form the shorelines along the region's northwesterly and southerly boundaries respectively, with Rondeau Bay centred along the Lake Erie shoreline of the LTVCA's jurisdictional limits.

Factors to be addressed in the areas susceptible to flooding along the shoreline include:

- 100 year flood level; and
- flood allowance for wave uprush and/or other water related hazards.



100 Year Flood Levels (place holder for updated map) (See Appendix 9.2.1)

For the Lake St. Clair, the Lake Erie and Rondeau Bay shorelines, the 100 year flood level is the water level due to the combined occurrences of mean monthly lake levels and wind set up having a 1% chance of occurring during any year.

The 100 year wave run-up level for the Lake St. Clair, Lake Erie and Rondeau Bay shorelines is based on mean monthly lake levels, wind setup and wind generated waves.

The 0.3 metre increase in elevation (freeboard) which extends and defines the shoreline limit, provides for protection from vehicle/boat generated waves, effects of ice buildup, etc., and ensures that 'development abutting shorelines' being protected to the 100 year level is not negatively impacted on by flooding.

In areas susceptible to wave action, shoreline flood hazards extend landward beyond the 100 year flood level to the limit of wave action. All shorelines of the Lower Thames Valley should be considered susceptible to wave action unless site specific studies using *accepted engineering principles* demonstrate that wave action is not significant.

Wave action includes wave uprush, wind setup, wave overtopping and/or wave spray. Wind setup is the mean increase in the water level caused by the onshore transport of water due to waves breaking at the shoreline, while wave uprush is the time varying height above the still water level that the water runs up the shoreline face. For straight, uniform shoreline reaches without *protection works*, the landward limit of wave action can be represented by the maximum sum of wave setup and wave uprush.

In areas where waves act on shore protection works and other structures, and in areas with irregular shorelines, the wave action may include wave overtopping and wave spray, which are more difficult to determine and may require a detailed study.

A number of additional water related influences impact on the landward extent or destructive nature of shoreline flood hazards. These include but are not limited to:

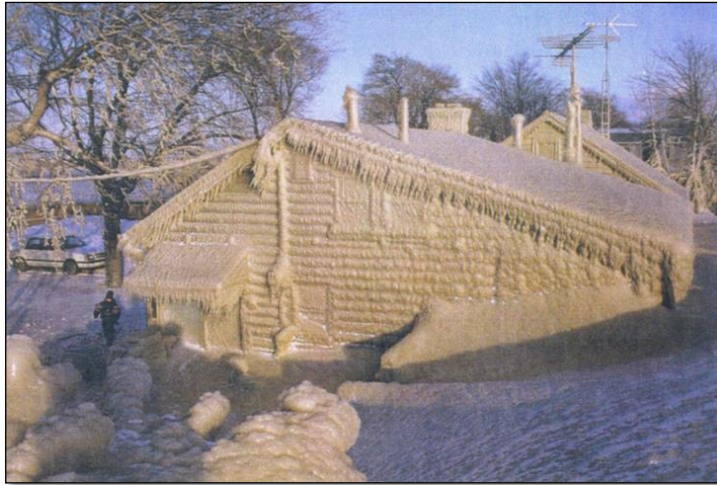
- wave overtopping,
- wave spray,
- ice piling,
- ice jamming, and
- ship generated waves.

Wave overtopping essentially occurs when the height of the natural shoreline, or of the protection work above the still water level, is less than the limit of wave uprush. As a result, wave overtopping the shoreline or protection work can cause flooding of the onshore area and can threaten the structural stability of protection works. These waters can then become trapped behind the shoreline crest or protection work, prolonging the extent of flooding and their impacts to developed areas.



Wave uprush-Erie Shore Drive.

Wave spray has frequently been observed to go over and past many existing shoreline houses (structures). The landward extent and quantity of wave spray depends on such factors as the type of shore, nearshore, bathymetry, type of protection works, size of incident waves, wind conditions and duration. Generally, during storms a significant amount of wave spray will occur behind the structures that are near vertical and subjected to large breaking waves. In winter conditions the spray can form an icy layer on all buildings and structures within the immediate impact zone. If sustained winds occur the ice coating on dwellings can impact the structural integrity of the home.



Winter wave uprush- Erie Shore Drive.

All shoreline areas and connecting channels form an ice cover to varying degrees of magnitude. There are two types of ice which impact on shoreline features: drift ice (slush, frazil, pancake, floe and composite ice) and shorefast ice (anchor ice). The impact on the shoreline by drift ice is dependent on the physical orientation and composition of the shoreline, wave action, wind setup and duration of ice action as the ice is transported alongshore and thrown onshore and then drawn offshore by wave action. Anchor or shorefast ice action on a shoreline has a horizontal and vertical impact on shoreline features as the stationary ice grows or diminishes in response to the temperature fluctuations over the winter period.

Ice piling results from wind blowing over the ice, pushing the ice landward. This can produce ridging and a large build-up of ice at the shore. Shore ice can then scour sections of the beach and near shore as well as damage and/or destroy structures close to the shore. The moving ice can also remove armour stone and damage jetties and seawalls in the shallow areas, thereby reducing the level of shore protection provided by these structures.

2.2.6.3.2 Shoreline Flood Hazards - Determination of Limits

The following requirements are used to identify the limits of shoreline flood hazard areas:

1. The *100 Year Flood Level* – its limit must be delineated to the satisfaction of the LTVCA. The preferred method of delineation is based on detailed calculation of 100 year levels which incorporate site specific elevation data and specific stillwater levels and wind setup and other variables. In cases where detailed 100 year flood level mapping is not available, the LTVCA reserves the right to require a proponent to determine the 100 year flood limit using a method that is acceptable to the LTVCA. Detailed 100 year level mapping has been completed for the shoreline areas of the Lower Thames Valley watershed around Rondeau Bay.

The Lake St. Clair shoreline has not been mapped in detail for this as ice jam flooding from an event on the Thames River produces more severe flooding.

The horizontal extent of the shoreline flood hazard is extended and defined by adding an allowance of 0.3 metres (freeboard) to the applicable 100 year flood level to account for development that could be impacted on by vehicle/boat generated waves, effects of ice buildup, or other factors.

2. *Wave Uprush* and Other Water Related Hazards – are highly influenced by local conditions. As such, a planning or management approach successfully applied in one area may be totally unacceptable in another. The key is to ensure that any and all proposed

approaches have been developed with due consideration to local conditions. In considering development applications for lands affected by shoreline processes, 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 effect of these hazards on property and human safety. Studies undertaken to define wave up rush and other water related hazards for a particular section of shoreline must use accepted engineering principals and methods to the satisfaction of the LTVCA. It must be recognized in the calculation of the limit of the wave uprush and other water related hazards, the methods of calculation, the level of influence each factor poses, and the determination of which methods of calculation are acceptable depending on the type of shoreline being examined. Any interference with the shoreline could have significant implications for flooding and erosion at the site of interference and for some distance along the abutting shorelines. The LTVCA mapping of the Regulation Limit shows the location of the shoreline at a planning area level of detail. Site specific information on exact location and characteristics of the shoreline may be required as a prerequisite in reviewing any proposed development or site alteration in close proximity to a shoreline.

3. *Special Policy Areas* – In those limited cases where a Special Policy Area is applicable, the limits of the Special Policy Area and policies must be supported by the LTVCA and must be approved by the Municipality, the Ministry of Natural Resources and Forestry and Ministry of Municipal Affairs and Housing. In cooperation with the municipality, the LTVCA may identify potential Special Policy Areas and implement interim policy requirements for these areas while the formal Special Policy Area review and approval process is underway. The LTVCA currently has no shoreline Special Policy Areas. However mapping was undertaken from Rondeau Provincial Park along Rose Beach Line in an attempt to create a Special Policy Area along this section of shoreline, but was not given approval by the Ministry of Natural Resources and Forestry to proceed to a Special Policy Area designation

2.2.6.3.3 Shoreline Flood Hazards – Allowance

A 15 metre Allowance is applied to Shoreline Flooding Hazards.

2.2.6.4 Shoreline Erosion Hazards

2.2.6.4.1 Shoreline Erosion Hazards – Description

Shoreline erosion is an important cause of slope instability, and is a potential hazard to shoreline development. The natural movement of the shoreline due to erosion can be aggravated by human activities and the impact of the activity can be transferred some distance from the impact site. The risk of erosion is managed by planning for the *100 year erosion rate* (the predicted lateral movement of a shoreline over a period of one hundred years). The extent of the shoreline erosion hazard limit depends on the shoreline type: bluff or beach. In keeping with the hazard avoidance approach of the LTVCA, development and site alteration is generally not permitted in shoreline erosion hazard areas.

The bluff will continue to erode back in an unpredictable fashion in spite of, or as a direct result of, protective measures that are in place at the toe. Erosion occurs on various levels on a bluff. Overland or sheet flows from the top table lands (if mowing in the vicinity of the bluff, staff always recommend leaving a 1 to 2 meter wide *buffer* if not more of longer vegetation along the edge of the bluff for this reason); Erosion due to rain / snow directly impacting the face of the bluff (staff recommend leaving all vegetation on the face of the bluff to help buffer this effect); Erosion that occurs from water flowing through the soil layers; Erosion that occurs at the toe of the bluff during storm events; and down cutting of the lake bed. One should also be aware that as erosion at the bottom of the slope occurs the bottom of the slope will move and therefore the 'Regulated area' will move as well.

The Elgin County Shoreline Management Plan is a comprehensive report that looks at the Elgin County Shoreline which is located along the north shore of Lake Erie and is comprised of four CA's. The report discusses the importance of a joint Shoreline Management Plan and the supporting technical studies. It also highlights the shoreline hazards and recommended shoreline management approaches (i.e. *Best Management Practices*). Section 5.0 of the report provides specific hazards and recommendations for the LTVCA which are discussed in section 4.0 of this document.



Shoreline Erosion- Failure of vegetation protection.

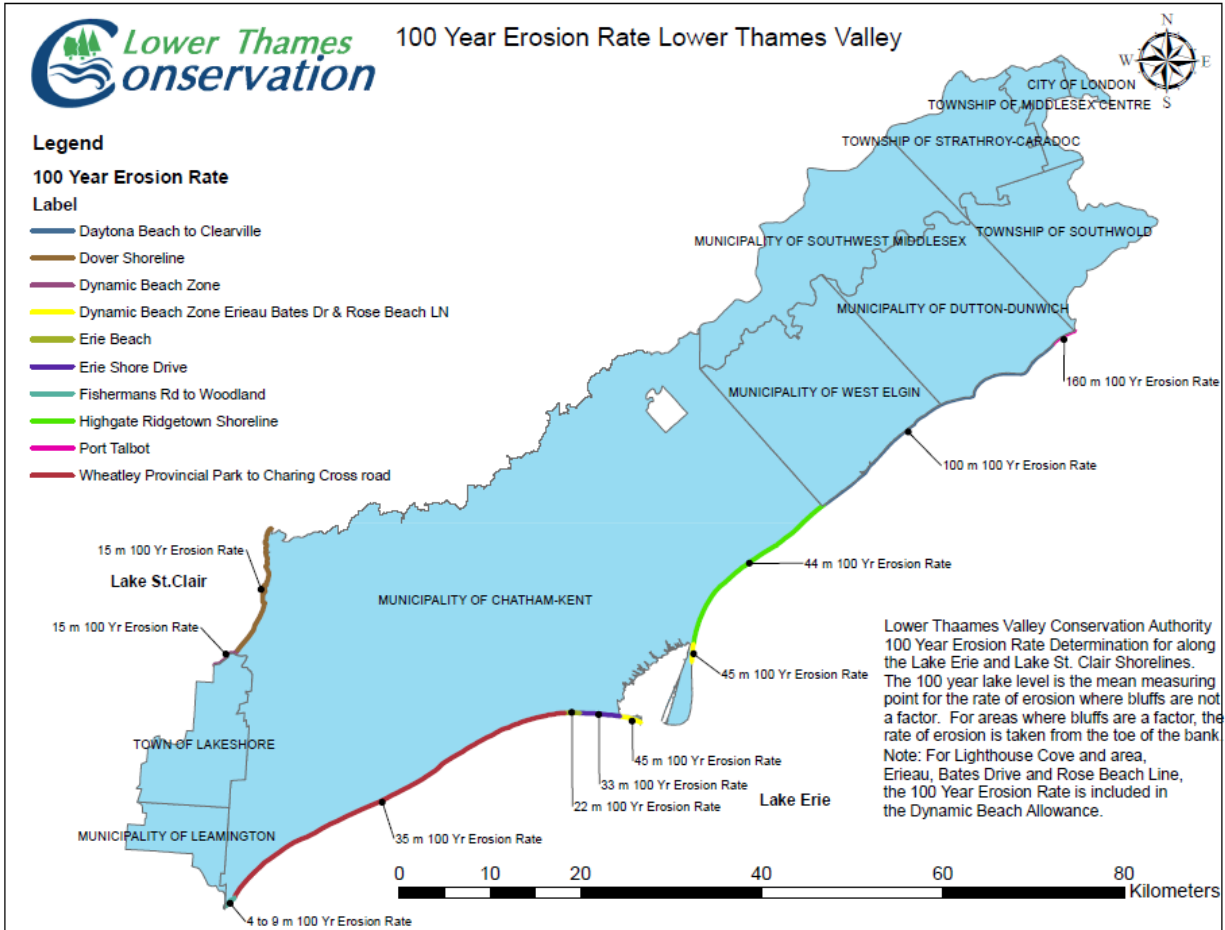
2.2.6.4.2 Shoreline Erosion Hazards – Determination of Limits

The LTVCA has prepared mapping for specific reaches of shoreline which establishes the location of shoreline erosion hazards at a planning area level of detail. The LTVCA mapping incorporates detailed erosion information for those areas where it is available along with general methodologies that are consistent with Provincial Technical guidelines. More specific information on the mapping of slopes and beaches is available in the Determination of Regulation Limits, LTVCA, November 2005. The LTVCA reserves the right to require a detailed assessment of shoreline erosion hazards as a prerequisite for reviewing any development or site alteration proposal and any such assessment must be undertaken with regard for Provincial Technical guidelines and follow accepted engineering practices to the satisfaction of the LTVCA.

1. The Shoreline Erosion Hazard Limit for Bluffs is comprised of the combined effect of the following:

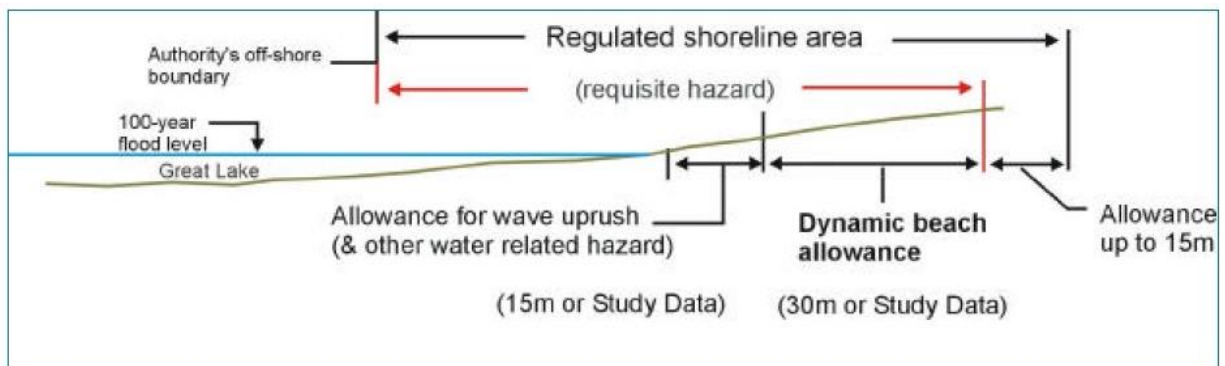
a) *100 Year Erosion Limit* – represents the estimated location of the shoreline 100 years from now.

b) *Slope Stability* – In cases where a slope is steeper than its determined stable angle of repose, the shoreline erosion hazard limit needs to be shifted to account for slope movement over time. In the absence of detailed geotechnical information about the slope, the stable slope allowance is based on an assumed stable slope gradient of 3 horizontal units to 1 vertical unit (3:1). For slopes having a steeper gradient, the allowance is equal to the distance between the actual bluff 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.



100 year erosion rate (See Appendix 9.2.2)

2. Beaches – Beaches, including dynamic beaches, must be analyzed differently from bluffs due to their ability to erode and/or accrete over time. The *shoreline hazard limit* for beaches is based on the 100 year erosion limit which represents the estimated location of the shoreline 100 years from now.



Dynamic beach hazard limit

2.2.6.4.3 Shoreline Erosion Hazards- Allowance

A 15 metre Allowance is applied to Shoreline Erosion Hazards.

2.2.6.5 Dynamic Beaches

2.2.6.5.1 Dynamic Beaches- Description

Dynamic beaches are considered natural hazards. The shorelines of these beaches are experiencing constant change as a result of changing wave, wind and water level conditions. This contributes to unstable accumulations of sediment supply to particular stretches of shoreline. Changes to the sediment supply can occur hourly, daily or yearly and at times rapidly.



Structure located on an active dynamic beach (sand dune)-Erie Shore Drive.

2.2.6.5.2 Dynamic Beaches- Determination of Limits

The LTVCA has identified dynamic beach areas. The dynamic beach hazard consists of the flooding hazard limit plus a dynamic beach allowance. It is based on the aggregate of the 100 year flood level, plus a 15 metre allowance for wave uprush plus a 45 metre dynamic beach allowance.

2.2.7.5 Wetlands

2.2.7.5.1 Wetlands – Description

From a natural hazard perspective, the following functions and characteristics of wetlands are considered:

- flood storage, flood level and flow augmentation
- source area
- recharge area
- potential standing water or for the presence of organic soils (peat and muck)

Filling or draining of a wetland can have an impact on the hydrologic functions of a wetland which in turn, may influence the flooding and erosion processes in the area. While it may be argued that the impact of wetland draining or filling in local areas is difficult to quantify, it is certain that the

incremental year round flow augmentation impact of widespread wetland interference can have a significant impact on downstream hydrology.

2.2.7.5.2 Wetlands – Determination of Limits

The LTVCA has identified wetland areas in the Regulation Limit mapping. Identified wetland areas include those areas which were evaluated using the Ontario Wetland Evaluation System, 3RD Edition (MNR, 2014) and unevaluated wetlands derived from a combination of information sources. Specifics about the mapping methodologies can be found in the Authority's Determination of Regulation Limits, LTVCA, November 2005.

The LTVCA reserves the right to require the proponent to submit a detailed wetland boundary determination consistent with the Ontario Wetland Evaluation System, 3RD Edition (MNR, 2014) or other methodology acceptable to the LTVCA. It is noted that the revision of a *provincially significant wetland* boundary will require the approval of the MNR.

2.2.7.5.3 Wetlands – Area of Interference

Wetlands can be impacted by development and site alteration that is located outside of the wetland boundary. To address this concern, an Area of Interference is established around all wetlands in order to identify those lands which, if developed, could potentially have a negative impact on the wetland and/or the wetland natively impact the development. The width of the actual Area of Interference will differ for each situation because it is based on a site by site assessment having regard for both the characteristics of the wetland and for the specifics of the proposed development or site alteration.

Consistent with the Provincial standards, and to ensure wetland protection, a standard Area of Interference has been applied to mapping of wetlands at a planning level. The Area of Interference for all Provincially Significant Wetlands is 120 metres and within 30 metres of all others.

The term Area of Interference and *Adjacent Lands* of a wetland is a term that applies to planning for wetlands as natural hazards. It should be noted that the extent of adjacent lands is not always consistent with the extent of Area of Interference.

2.3 NATURAL HERITAGE

A natural heritage system includes all of the hydrologic and ecological “systems” that make up the natural features and areas of the *watershed*. These can include *valleylands*, *areas of natural and scientific interests (ANSIs)*, *woodlands*, *wildlife habitat*, *wetlands*, *watercourses*, and Great Lakes shorelines, to name a few. Natural heritage systems can include lands that have been restored or have the potential to be restored to a natural state (PPS, 2014).

The emphasis is on system integrity and the importance of a holistic or systems-based approach. Linkages are a key element of a natural heritage system as there is a natural movement pattern of plants and animals that is necessary for biodiversity conservation and long term sustainability. A systems approach considers features as well as functions and is premised on a precautionary approach that considers the needs of more demanding species from a landscape perspective.

The CA encourages a natural heritage systems approach to *watershed* management. Traditional conservation approaches have focused on protecting individual natural features and areas and as a result, failed to adequately *protect* the ecological integrity of the *watershed* as a whole. Protecting and/or restoring features alone are not sufficient to maintain critical ecosystem functions. In addition, a natural heritage systems approach to *watershed* planning upholds the PPS which states:

“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.” (Provincial Policy Statement, MMAH, 2014)

2.4 SERVICING & MITIGATION

2.4.1 Planning for Services

Land development typically involves a change in land use which requires the implementation of municipal services such as stormwater management facilities, road construction, and sanitary sewers. The installation of these services can considerably alter the natural drainage patterns of the landscape and can have serious negative impacts on the hydrologic cycle and the ecosystem.

The Authority's review of development proposals and proposed servicing strategies prior to construction ensures that the development components are not negatively impacting the natural hazards. This review includes any permanent alteration to local drainage patterns and considers the capacity of the watercourse and its physical and natural characteristics. It also includes any temporary or permanent facilities which are to be constructed and maintained to reduce sediment loss by erosion.

2.4.2 Goals & Objectives

1. To effectively mitigate the impacts of land development and servicing.
2. To protect the watershed from potentially harmful impacts associated with land development and the installation of services including roads, sewers and stormwater management facilities.

2.4.3 Guiding Principles

The Authority supports the preparation of Watershed and Subwatershed Management Plans which provide a comprehensive systems approach for assessing and addressing the impacts of services within a defined planning area or community on natural hazards. These Plans should logically be undertaken at a catchment or collection of catchments level.

Some adjustment may be required in the preparation of watershed and subwatershed management plans to recognize those areas where urban expansions or community planning areas may not logically follow catchments.

Natural designs for stormwater management such as Low Impact Development will be supported.

2.5 INTEGRATED RESOURCES & SYSTEMS PLANNING

The watershed is an integrated system of human and natural resources and processes that need to be managed in a holistic and balanced way in order to achieve a healthy sustainable ecosystem. The policies contained in this Manual support the LTVCA's integrated, comprehensive and long-term approach to planning and recognize and respect the linkages among the watersheds resources and systems. The policies also have regard for the potential for cumulative effects of the decisions that are made through the Authority's planning advisory and regulatory services.

The Authority's approach to integrated resources planning is consistent with the direction provided by the PPS which recognizes the linkages between the policies for natural hazard, natural heritage and natural resource features and advocates the watershed as the "ecologically meaningful scale" for planning. Keeping this in mind, all of the policies in the manual should be considered as a whole when reviewing development proposals.

2.5.1 Goals & Objectives

1. To protect and enhance the resources and processes and their linkages which are needed to achieve a healthy ecosystem.
2. To consider the potential impact of decisions on all of the components and features that together form the integrated watershed system including natural hazards, natural heritage, natural resources and servicing.

2.5.2 Guiding Principles

The Authority advocates an integrated approach to planning and managing the natural hazards, natural heritage features and systems, natural resources and servicing within the watershed.

The Authority supports decisions that are guided by comprehensive studies of natural hazard, natural heritage and natural resource features and processes on appropriate management scales.

The potential for cumulative impacts must always be considered and even in cases where the impact is considered to be minor, a precautionary approach needs to be taken.

3 MUNICIPAL PLAN REVIEW

3.1 OVERVIEW

The following policies are designed to assist LTVCA staff with providing their input on comprehensive planning documents such as Official Plans and Area Studies as well as with their review of Planning Act applications. These policies must be read in conjunction with the information provided in Section 2. Consistent with the format established in Section 2, the policies are presented in the following order:

1. Natural Hazards
2. Servicing & Mitigation
3. Integrated Systems Planning

3.2 NATURAL HAZARDS

3.2.1 Overview

The Authority's Municipal Plan Review policies for natural hazards have been organized under the following main headings:

1. General Policies for Natural Hazards -applies to all hazard types and allowances.
2. Watercourse Flooding Hazards -applies to the flood plain and its components including the floodway, the flood fringe and special policy areas and allowances.
3. Watercourse Erosion Hazards -applies to steep slopes, valleylands, ravines, watercourses and allowances.
4. Shoreline Flooding Hazards -applies to the flood plain, areas susceptible to wave uprush, and other water related hazards and allowances.
5. Shoreline Erosion Hazards -applies to bluffs, stable slopes, sifting dune systems, dynamic beaches and allowances.
6. Wetlands -applies to all wetlands (including ponds and organic soils such as peat or muck) and the areas of interference surrounding wetlands.

3.2.2 General Natural Hazard Policies

- 1) New development and site alteration will be directed away from hazard lands.
- 2) Any development and site alteration which is permitted in hazard lands must meet the following conditions to the satisfaction of the LTVCA:
 - a) Appropriate *floodproofing* measures, and safe access during times of flooding, erosion and other emergencies are provided;
 - b) No new hazards will be created as a result of the proposal/ development and existing hazards will not be aggravated;
 - c) No adverse environmental impact will result;
 - d) No negative impacts to adjacent neighbouring properties will result.
- 3) Development will not be permitted to locate in hazard lands 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, bank failure, failure of floodproofing measures or protection works;
- b) Contractors yards/ greenhouse operations i.e. stockpiling of large quantities of spoil or other substances which may impact flooding or cause bank instability;
- c) 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, bank failure, the failure of floodproofing measures and or protection works; and
- d) Uses associated with the disposal, manufacture, treatment or storage of *hazardous substances*.

4) The Authority may require the submission of an Environmental Impact Study (EIS) to assist with the characterization of a natural hazard feature. An EIS prepared for this purpose must integrate any relevant natural heritage or natural resource features or processes.

3.2.3 Watercourse Flooding Hazard Policies

1. In cases where detailed flood plain mapping is not available, the Authority may require that the Regulatory Flood Plain be identified and mapped as part of a study, prepared by a *qualified professional (s)*, to the satisfaction of the LTVCA.
2. The Authority, in cooperation with watershed municipalities, applies a Two Zone Policy Approach to all watercourses in the watershed. The Two Zone Policy Approach separates the flood plain into a Floodway area and a Flood Fringe area.
3. In very unique situations, the Province, at the request of the Authority, may identify specific areas as Special Policy Areas.

3.2.3.1 Floodway Policies

1. Floodway policies apply to all land within the Regulatory Flood Plain except for specifically identified flood fringe areas and specifically identified Special Policy Areas.
2. Development and site alteration is generally prohibited within the floodway of any watercourse regardless of whether the area of inundation contains high points of land not subject to flooding.
3. Uses which may be established in the floodway, subject to satisfying LTVCA Permit requirements, include:
 - a) open space/recreation uses, including golf courses and playing fields, which do not require permanent structures or any major alteration of the landscape;
 - b) uses which by their nature must locate within the floodway, such as flood and erosion control works, bridges, pipe outfalls, outlets, fish habitat improvements. See *restricted uses* in the Glossary.
 - c) non-structural uses such as forestry, wildlife management, gardens, nurseries and arboretums; and
 - d) with restrictions, *replacement structures* or *minor works*.

4. The conversion of open surface watercourses and open drains to closed surface drains is discouraged.

Subject to satisfying LTVCA and other agency requirements, alterations to watercourses may be permitted provided:

- a) Stream flow is not impeded;
- b) Flood conveyance and flood control are not compromised; and
- c) Erosion processes are not aggravated and/or are not transferred to other areas either up or downstream.

5. Parking is considered to be a component of development. The expansion of parking in a floodway to service new development that is not located in the floodway is permitted with the submission of an emergency plan to blockade the area under flood conditions.

6. For new development and redevelopment, vehicular and pedestrian access must meet minimum ingress and egress requirements (within 0.3 metres of the Regulatory Flood).

7. For existing legal non-conforming uses, the Authority will encourage improvements to be located out of the floodway area and meet the minimum flood proofing requirement.

3.2.3.2 Flood Fringe Policies

1. Flood fringe policies apply to all land within the Regulatory Flood Plain except for specifically identified floodway areas and specifically identified Special Policy Areas.

2. Development and site alteration is permitted in flood fringe areas subject to satisfying the Authority's floodproofing requirements. These requirements are implemented through the Section 28 Permit process.

3. Parking for existing, infill and re-development as a minimum must be within 0.3 metres of the Regulatory Flood.

4. For new development and redevelopment, vehicular and pedestrian access must be safe (within 0.3 metres of the Regulatory Flood).

3.2.3.3 Special Policy Areas

The Lower Thames Valley currently has two Special Policy Areas approved by the Province; Thamesville and Chatham, both which are urban areas located on the Thames River. In both cases, studies done by the LTVCA have designated the floodway of the Thames River. The floodway is the channel of a watercourse and that inner portion of the floodplain required for safe passage of flood flows 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 Thamesville the floodway of the Thames River has been determined to be the area of Thamesville south of the CNR railway tracks. In the case of Chatham the floodways of the Thames River and the McGregor Creek have been determined to be that portion of the watercourse that is within 22 metres of the normal water's edge of the watercourse. The remainder of the area that is flooded in these two centres by the Regulatory Flood is considered the flood fringe. The flood fringe is that portion of the floodplain between the floodway and the limit of the Regulatory Flood. Flood depths and velocities are generally less severe in the flood fringe than those experienced in the floodway. Development may take place in the flood fringe provided flood proofing is undertaken and that consideration be given to allowing free flow of flood waters within the entire flood fringe.

3.2.4 Watercourse Erosion Hazard Policies

1. Where development or site alteration is proposed within the limit of the watercourse erosion hazard or an allowance from the watercourse erosion hazard, the Authority may require that the erosion hazard be identified and mapped as part of a study, prepared by a qualified professional.
2. Development and site alteration is not permitted on the face of steep slopes, ravines and distinct valley walls.
3. The establishment of the limit of the *hazard land* and safe setbacks must be based on the natural state of the slope, and not through re-grading or the use of structures or devices to stabilize the slope.
4. For new development adjacent to watercourse erosion hazards, the development limit will be:
 - a) For stable slopes with no toe erosion: the top of slope plus an erosion allowance of 15 metres;
 - b) For stable slopes with toe erosion: the top of slope plus an allowance for toe erosion plus an allowance of 15 metres
 - c) For unstable slopes with no toe erosion: the point where the calculated stable angle of repose intersects the table land plus an allowance of 15 metres;
 - d) For unstable slopes with toe erosion: the point where the calculated stable angle of repose intersects the table land plus a toe erosion allowance plus an allowance of 15 metres.
5. Subject to Section 28 Permit requirements, temporary erosion and sediment control devices and other associated structures may be permitted within the watercourse erosion hazard limit during the duration of construction until the site has stabilized.

3.2.5 Shoreline Flooding Hazard Policies

1. Shoreline Flooding Hazard Policies apply to all land within the Regulatory Flood Plain, areas susceptible to wave uprush, and other water related hazards.
2. Development and site alteration may be permitted in the Regulatory Flood Plain areas susceptible to wave uprush and other water related hazards subject to satisfying the Authority's floodproofing requirements. These requirements are implemented through the Section 28 Permit process.
3. Subject to satisfying LTVCA and other agency requirements, alterations to the shoreline may be permitted provided:
 - a) Shoreline processes are not impeded;
 - b) Flood conveyance and flood control are not compromised; and
 - c) Erosion processes are not aggravated and/or are not transferred to other areas.
4. Parking for existing, infill and re-development at a minimum must be within 0.3 metres of the 100 Year Flood Elevation.
5. For new development and redevelopment, vehicular and pedestrian access must be safe (within 0.3 metres of the 100 Year Flood Elevation).

3.2.5.1 Special Policy Areas

1. The Lower Thames Valley currently does not have any Special Policy Areas approved by the Province along the shoreline.

3.2.6 Shoreline Erosion Hazard Policies

1. Where development or site alteration is proposed within the limit of the shoreline erosion hazard or an allowance from the shoreline erosion hazard, the Authority may require that the erosion hazard be identified and mapped as part of a study, prepared by a qualified professional.

2. Development and site alteration is not permitted on the face of steep slopes and/or bluffs, unstable slopes and dynamic beaches.

3. The establishment of the limit of the hazard land and safe setbacks must be based on the natural state of the slope, and not through re-grading or the use of structures or devices to stabilize the slope.

4. For new development adjacent to the shoreline erosion hazards, the development limit will be:

- a) For stable slopes: an allowance for 100 years of toe erosion plus the top of the slope plus an access allowance of 15 metres;
- b) For unstable slopes: an allowance for 100 years of toe erosion plus the stable slope allowance plus an access allowance of 15 metres;
- c) For beaches, including dynamic beaches: an allowance for 100 years of shoreline erosion plus an access allowance of 15 metres.

5. For new development and redevelopment, vehicular and pedestrian access must be safe (within 0.3 metres of the 100 Year Flood Elevation).

3.2.7 Wetland Policies

The following policies relate to the natural hazard characteristics and functions of wetlands.

1. Where development or site alteration is proposed within the limit or the area of interference of a wetland, the Authority may require that the wetland boundary be mapped by a qualified professional, and consistent with the Ontario Wetland Evaluation System (OMNR, 1994), as part of an EIA. It is noted that the revision of any Provincially Significant Wetland boundary will require the approval of the MNRF.

2. New development and site alteration is not permitted in wetlands. Some restricted works may be permitted provided that they are supported by an EIA or an Environmental Assessment and have approval from the MNRF.

3. Development and site alteration may be permitted within the area of interference of a wetland provided that there is no impact on the hydrological function of the wetland and no potential hazard impact on the development. The potential for development and site alteration within the area of interference of a wetland shall be determined through the completion of an EIA, prepared by a qualified professional, to the satisfaction of the LTVCA.

3.3 SERVICING & MITIGATION

3.3.1 Overview

Changes in land use associated with urban development may temporarily or permanently alter the quality and quantity of water transferred between the various components of the hydrologic cycle. Unmitigated alterations to the hydrologic cycle could potentially have a negative impact on the watershed ecosystem affecting flood attenuation resulting in flash flooding during spring freshets and storm events to the absence of flows during the summer months. The Authority advocates for the protection and enhancement of natural hazard, natural heritage and other natural resources from the indirect impacts of development.

The LTVCA advocates low impact development or like proposals where flows pre and post construction are consistent, and not altering/redirecting flows from one watershed to another.

3.3.2 Policies for Stormwater Management and Sediment & Erosion Control Measures

The Authority provides comments to all member municipalities regarding stormwater management (SWM) and sediment and erosion control for development proposals.

1. The Authority advocates for the planning and implementation of SWM facilities on a catchment area basis through the completion of Subwatershed Plans and/or Master Drainage Plans. Subwatershed Plans and/or Master Drainage Plans may be typically required for proposals where there is potential for impacts from the development site to properties located beyond the subject property. Exceptions to this policy may be limited to minor infill developments or cases where the coordination of stormwater management for the catchment cannot be practically achieved.
2. The Authority generally does not support:
 - a) on-line SWM ponds designed to enhance water quality;
 - b) the use of natural wetlands for SWM facilities;
 - c) SWM facilities within natural hazards; and
 - d) SWM facilities within significant natural heritage features.
3. The Authority may require a conceptual SWM report be submitted to a 3rd party for independent review at the landowner's expense for review and subsequent CA approval prior to supporting development proposals to create multiple lots (multi lot severances, draft plans of subdivision or condominium). The report must be prepared by a qualified professional and must address the areas of concern previously outlined in this section. The report must be completed at a sufficient level of detail to establish the type, size and location of stormwater facilities.
4. The Authority requires that erosion control at the source be implemented along with supplementary treatment between the source and receiving SWM facility prior to outletting to any waterbody.
5. Sediment and erosion control measures are to be used on all construction sites to limit the effects of the proposed development on the surrounding natural environment, neighbouring lots and receiving watercourse network.

3.3.3 Policies for Servicing

1. Private services are considered to be part of development and are subject to the policy requirements of this manual.

2. New servicing corridors or extensions to existing corridors will be reviewed by the Authority with regard for the policies in this manual. Authority comments will be provided through the appropriate mechanism, typically, through the Class Environmental Assessment Act process.

3.4 INTEGRATED RESOURCES & SYSTEMS PLANNING

The Authority advocates an integrated approach for planning and managing the watershed ecosystem. The following policies are intended to support this approach.

3.4.1 Policies for Integrated Resources & Systems Planning

1. All development and site alteration will be assessed with regard for the potential impacts on natural hazard, natural heritage and natural resource systems. The assessment of the resource, the identification of the development limit and mitigation measures must be undertaken through the completion of a comprehensive EIS.
2. The Authority recommends that studies to support development consider the implications for the affected planning area and should be based on logical natural boundaries or planning area boundaries. Studies completed at this scale are capable of characterizing the cumulative effects of development.
3. An EIS for a specific property or group of properties may be acceptable due to the scale of the development or the limited development area available. Although the EIS has a narrower scope, it must address the broader natural hazard, natural heritage or natural resource systems of the area. It should be noted that due to its narrower scope, a specific EIS is less capable of assessing cumulative impacts on the system and as a result, the Authority will take a more precautionary approach when assessing the acceptability of impacts.
4. The Authority will work with watershed municipalities to identify the need for comprehensive studies on priority issues. Comprehensive studies based on logical management boundaries are required to support large scale urban expansions.

4 SECTION 28 REVIEW & APPROVAL PROCESS

4.1 OVERVIEW

Section 28 of the Conservation Authorities Act provides the LTVCA with the legislative responsibility to regulate activities such as the placing or dumping of fill and the construction of buildings or structures in or on flood plains, shorelands, wetlands, or ponds through a permit process within the Authority's areas of jurisdiction. Through its Permit Process, the Authority regulates development in order to prevent the creation of new hazards or aggravating existing ones. Staff responsible for the review of Section 28 applications must note that the principle of development will be established through prior approval of related planning applications, where necessary, in advance of Section 28 approval from the LTVCA. Landowners/ developers must also realize that if a substantial time has elapsed between the planning phase and the development phase, additional restrictions on developing may come into force due to changing site conditions in relation to the natural hazard.

4.2 REGULATION LIMIT

Regulation Limits are the result of several components, each of which addresses a specific hazard. These include:

- Watercourse Flooding Hazard and Allowance
- Watercourse Erosion Hazard and Allowance
- Shoreline Flooding Hazard and Allowance
- Shoreline Erosion Hazard and Allowance
- Dynamic Beach
- Wetlands and
- Area of Interference

The final Regulation Limit for each system is taken as the greater of the applicable hazard limits. Regulation Limit screening mapping, prepared by the Lower Thames Valley Conservation Authority, has been completed in full accordance with guidelines from the Ministry of Natural Resources and Forestry and Conservation Ontario. The Authority's policies for the Regulation Limit have been organized under the following main headings:

1. General Hazard Management Policies

-applies to all hazard types.

2. Watercourse/Shoreline Flooding Hazards

-the Authority's area of interest is the watercourse flood plain which is comprised of the floodway and the flood fringe; and

-the Authority's areas of interest is the shoreline flood plain, and areas impacted on by wave uprush and other water related hazards.

3. Watercourse/Shoreline Erosion Hazards

-The Authority's areas of interest for watercourses includes slopes, valley lands, and ravines; and

-The Authority's areas of interest for shorelines include bluffs, slopes, beaches and other areas susceptible to shoreline recession.

4. Wetlands

-The Authority's areas of interest include swamps, marshes, ponds, areas of organic soils (e.g. peat) and the areas of interference surrounding wetlands.

4.2.1 General Hazard Management Policies

The Conservation Authority, in reviewing a development proposal, must be satisfied that all inherent hazards relating to the proposal have been assessed and acceptable measures proposed for mitigating the hazard. In addition, the project will be assessed in terms of its potential for increasing the risk to surrounding persons or properties.

1. All development and site alteration proposed within the Regulation Limit shall require prior written approval from the Authority in accordance with Section 28 of the Conservation Authorities Act and Sections 3 & 6 of O.Reg 152/06 shall be consistent with the policies contained herein.
2. Development and site alteration shall be directed away from hazard lands where there is an unacceptable risk to public health or safety or property damage and shall be directed to areas located outside of the defined limits of the hazard.
3. Development and site alteration may only be permitted in hazard lands provided that all of the following conditions can be implemented to the satisfaction of the Authority:
 - a) Appropriate floodproofing measures implemented, and safe access during times of flooding, erosion and other emergencies is provided for.
 - b) No new hazards will be created and existing hazards will not be aggravated.
 - c) No adverse environmental impacts will result.
 - d) The development does not include the disposal, manufacture, treatment or storage of hazardous substances.
 - e) The development will not have negative impacts on other properties.
4. The required setback for any development or site alteration, permitted in accordance with policies 4.2.1 (1, 2. and 3.), with the exception of watercourse alterations, will maintain a minimum setback in accordance with the related hazard. Dependent upon mapping, specific studies or other issues, exceptions may be considered on a site-specific basis. Additional setbacks may be required as per other agency guidelines.
5. Accessory structures with a floor area less than 100 square feet (9.29 square metres) are exempt from these requirements and do not require a permit. Accessory structures with a floor area less than 100 square feet (9.29 square metres) are not allowed in the floodway area or on a slope, or to be located closer to the hazard than the existing structure.
6. Building additions, up to 20 percent of the size of the original ground flood area of a residential (excluding attached garages) building every 10 years, shall be exempt from the requirements for new buildings and can be permitted provided that the following conditions are met:
 - the proposed works are located outside of the floodway and/or stable slope allowance;
 - the original building to be expanded is not located within the floodway and/or slope allowance;
 - the number of dwelling units is not increased;
 - the floodproofing elevation must be no less than the original building; and
 - the setback from the watercourse or shoreline must be no closer than the original building.
7. Fencing- Fencing is normally considered exempt from permission required under the Section 28 Regulation. However, the LTVCA reserves the right, in certain locations, to apply the requirements of the Section 28 Regulation. The LTVCA generally discourages fencing in natural hazard areas (i.e. floodway areas, unstable slopes, dynamic beaches and wetlands). Where necessary, fencing should be constructed in such a manner that it does not impede conveyance of flow of the watercourse and does not require the use of fill within flooding hazard limits and wetlands.

8. Integration -While this section of the manual is devoted to policies associated with the review and approval of applications made to the LTVCA pursuant to Section 28 of the Conservation Authorities Act, it is imperative that staff integrate natural heritage policies, goals and objectives into the decision-making process. Similarly, staff must be familiar with and have full regard for other environmental legislation which may have a direct bearing on whether development, interference with wetlands and alterations to shorelines and watercourses may proceed.

9. Applications under this policy will be ratified by the LTVCA's Board of Directors.

10. Special Policy Areas -It is acknowledged that the strict application of the guidelines for areas susceptible to flooding may not always be feasible. This policy and guidelines document, therefore, makes provision for "Special Policy" status to those areas where it is deemed appropriate in the public interest, by the municipalities, Conservation Authority and the province, to assume a higher degree of flood risk than that which would normally be acceptable under the approved Provincial Cabinet policy on Floodplain Management

Specific guidelines for each "Special Policy Area" are contained in the individual SPA Reports.

11. Hardship Rebuilds- Unique or special circumstances has enabled some historical communities to continue to use the flood plain if a pattern of development has already been established. Strict adherence to certain Province-wide policies pertaining to new development would result in social and economic hardship for the community. As a result, site specific policies are formulated and applied within the defined limits of the Special Policy Area.

4.2.2 Watercourse/Shoreline Flooding Hazard Policies

Areas susceptible to flooding are usually termed *floodplain*. The flood plains and channels of all watercourses and the floodplains of Lake Erie and Lake St. Clair are considered to be of concern to the Conservation Authority. The area of such floodplains will vary according to topography, soil conditions, volume of water and velocity of flow.

Watercourses: For the purpose of this document, the floodplain of a watercourse may be divided into two areas entitled the floodway and flood fringe. The floodway is the central portion closest to the watercourse where risk of flood damage is highest. The flood fringe is the remainder of the floodplain where development can occur with conditions e.g. flood proofing.

Lake Erie, Lake St. Clair: The floodplains of these bodies of water are treated in the same manner as the flood fringes of watercourses and often affect the same area of land in the area of stream and river mouths. These areas are also affected by wave upset conditions. Where wind generated storm events push lake waters further inland impacting a greater area than from riverine flooding events.

General Policies include:

a) Cut and fill activities generally shall not be permitted in the floodplain of any watercourse without appropriate supporting studies prepared by a qualified professional engineer.

b) Where the flood plain of a watercourse has not been calculated, the Authority may require the applicant to prepare the calculations and mapping in accordance with flood plain mapping criteria established by the Ministry of Natural Resources and Forestry.

c) Parking Lots -Parking lots will only be considered within the flooding hazard limit in cases where the flooding hazard limit is within a not-apparent valley or in areas of existing development within the valley with acceptable access to the site. Parking lots associated with residential development must

be located within 0.3 metres of the Regulatory Flood Elevation or the Maximum Observed Flood Elevation.

d) Minor Works -will be permitted within the flood plain subject to satisfying the Authority's requirements.

e) Agriculture -The use of the flood hazard limits for ongoing cropland, livestock feeding and grazing, orchards, and nurseries and associated activities such as plowing, and fencing are not considered site alterations. The construction of farm buildings may be considered within the flood fringe, where no site can be reasonably utilized for the proposed works outside of the flood fringe and where the structures will be floodproofed.

4.2.2.1. Activities in the Floodway

The following are subject to special policy area exemptions:

1. New development is not permitted within the floodway of any watercourse.

2. Major renovations including major structural changes/improvements to the existing structure (i.e. major changes to floor plans, roof lines, foundation, etc.) will be deemed new construction and will not be permitted within the floodway of any watercourse.

3. The construction of above-ground and in-ground swimming pools shall not be permitted in the floodway of any watercourse.

4. The following development projects and land use activities may be permitted within the floodway of a watercourse:

a) Open space uses not requiring a closed building such as agricultural cropland, livestock feeding and grazing, or open type public or private recreation areas. However, livestock crossings and accesses should be limited to specified points on the channel.

b) The type of development or land uses that are normally associated with areas susceptible to flooding such as flood and erosion control structures, including berms and dykes; and buildings and structures essential to marine activities provided that such works do not significantly restrict the passage of flood waters or adversely redirect flows, and provided that any new or disturbed fill material is adequately protected or retained, in the opinion of the Authority, to prevent it from eroding into the watercourse, or is removed completely from the floodway.

c) Railroads, streets, bridges, and public services and pipelines of approved hydrological design.

d) Excavation of materials providing that all generated material is removed from the floodway.

e) Fences, walls or other appurtenances provided they would not constitute an obstruction or debris-catching obstacle to the passage of flood waters. Pre-consultation with Authority staff should be undertaken to ensure a permit is not required.

f) Landscaping, provided that the capacity of the floodplain to contain flood flows is not diminished.

g) The maintenance and repair of an existing building if damaged to the extent of less than fifty percent of the appraised value of the structure. If the building has been damaged or destroyed by fire or other natural disasters to the extent of fifty percent or more of the appraised value of the structure, repair or reconstruction may be permitted;

- 1) Provided that it is reconstructed to withstand the Regulatory Flood Standard or the Shoreline Regulatory Flood Standard, whichever is the greater;
- 2) Provided that the usable floor area is not increased; and
- 3) Provided the use remains the same or becomes a use less affected by flooding.

h) Normal/typical maintenance and upkeep of an existing structure (i.e. new siding, *replacement* of windows, shingles) will be permitted provided the use of the structure has not changed and livable space does not increase.

i) Stormwater drainage works such as open channels or pipe outlets provided such works are designed or certified by a qualified engineer so as not to increase flows which would adversely affect flooding conditions, considering the cumulative effects of all similar future works in the watershed and does not negatively impact surrounding neighbouring lots/ development.

4.2.2.2 Flood Fringe of Watercourses and Shorelines

The following development projects and land use activities may be permitted within the flood fringe of a watercourse or the floodplain of Lake Erie and Lake St. Clair (i.e. any floodprone area outside a watercourse floodway).

a) Any development and use permitted in a watercourse floodway per Section 4.2.2.1.

b) New buildings or structures, including additions which are not permitted in the floodway, provided that the following minimum criteria are met:

1) The entire new structure, including the foundation, footings and slab on grade, walls and other appurtenances, must be designed and constructed to withstand *regulatory flood levels*, including hydrostatic pressures of an elevated water table and the momentum of flood flows and to provide access during a flood. Normally this will require the lowest structural opening e.g. basement windows, crawl space vent, doorways, etc. to be above the Regulatory Flood Level. Typically, the finished grade for a minimum horizontal distance of 2 metres is to be at or above the Flood Level or the Maximum Observed Flood Level. Approved foundation designs, provided by a qualified professional engineer addressing hydrostatic pressure, may reduce the finished grade requirement. Regulatory flood levels are defined as the greater of:

- i) 100 year or maximum observed flood level plus a freeboard of 0.3 metres in watercourses and lakeshore floodplains not subject to direct wave attack. (In areas subject to flooding from both watercourses and lakes, the higher of the two flood levels shall govern.)
- ii) In lakeshore areas subject to direct wave attack, the regulatory flood level will be the 1:100 year or maximum observed plus wave run-up elevation as calculated for the specific site conditions. In the absence of site specific engineering data, a 0.3 metre free board above the 1:100 year beach run-up level will be used.

2) Buildings or structures, or other uses normally permitted in the flood fringe, must be constructed with the first floor grade being above the regulatory flood levels.

3) Non-habitable accessory buildings may be constructed with a floor elevation of 0.3 metres below the 1:100 year flood elevation provided:

- They are located outside of the floodway area,

- All mechanical, electrical, and heating equipment must be located above the *regulatory flood datum*,
- No building materials susceptible to flood damage located below the regulatory flood datum.

4) Driveways, walkways and local roadways essential to ingress and egress, should be no lower than 0.3 metres below the regulatory flood level. We recognize that there are communities that currently do not meet this standard e.g. Lighthouse Cove.

5) All electrical equipment, circuits and installed electrical appliances shall be located so as not to be subject to flooding, or shall be floodproofed to prevent damage resulting from inundation by the regulatory flood levels.

6) Stormwater drainage works servicing the new structures must be designed or certified by a qualified engineer such that there shall be no adverse effects on water quality and flooding conditions downstream due to increased flows from the development, accounting for the cumulative effect of all potential similar future land developments and associated drainage works in the watershed, for flows up to the Regulatory level.

c) Chemical storage, explosive, buoyant, corrosive or flammable liquid storage will be discouraged wherever possible. When this is not possible, these types of material must be adequately flood proofed to prevent flotation of tanks or other damage or escape into the flood waters of any materials.

d) Placement of fill provided such placement does not restrict the passage of flood waters or adversely redirect flows and provided that the fill is adequately compacted in lifts, retained or protected to prevent it from eroding into the watercourse or lake, and vegetated as soon as possible. (Excludes contractor's yards, gravel pits, nurseries or like businesses where spoil piles are left bare for access and reuse purposes.)

e) Access -For new development, vehicular and pedestrian access must be safe, to an elevation within 0.3 metres of the Regulatory Flood Elevation or Maximum Observed Flood Elevation or as determined through use of the following documents: a) Technical Guide -River and Stream Systems: Erosion Hazard Limit and b) Technical Guide -River and Stream Systems: Flooding Hazard Limit (Ministry of Natural Resources & Watershed Science Centre, 2002). Institutional buildings, servicing the sick, elderly, young or disabled (e.g. schools, hospitals), or essential public services (e.g. police, fire, ambulance) must meet the requirements listed under item (b), and the additional requirement that "dry" routes must be provided for ingress and egress (i.e. above regulatory flood levels).

f). Swimming pools will only be considered within the flood fringe hazard area where an alternative outside the flood plain does not exist. There must be no loss of flood storage or flood conveyance capacity due to the pool's construction, fencing or associated grading. Electrical servicing must be floodproofed. An assessment of potential hydrostatic pressures under both normal and flood conditions may be required. Spoil from the excavation should be removed completely from the site to an approved location.

g) Golf Courses -Golf course construction shall not be permitted in areas where the works may negatively impact on the floodway. Associated structures including clubhouse and maintenance buildings must be located above the Regulatory Flood Elevation and outside of any erosion hazard limit as well as the floodway. Watercourse crossings associated with golf course development shall be minimized and be designed by a qualified professional. Designs must take into consideration flood susceptibility, structural integrity in times of flooding, hydraulic capacity, fluvial geomorphic processes, approach ramp fill requirements and the potential for seasonal removal. Golf courses will

only be approved by the LTVCA upon completion of an Environmental Impact Study by qualified professionals which considers, in addition to those items noted above, vegetation communities, buffer requirements, stormwater management opportunities, erosion and sediment control requirements, site drainage and grading, integrated pest management opportunities, water taking requirements and other areas of concern identified through a scoping exercise.

h) Stormwater Management Facilities -Consistent with Policy 4.2.1 and subject to policies in 4.2.3.1, stormwater management facilities shall be directed, where possible, to areas located outside of the defined limits of the natural hazard. Additionally, SWM facilities and associated measures may only be permitted in the flood plain if it can be demonstrated that there is a net public benefit in selecting the flood plain location, and if all other potentially viable locations have been dismissed (on technical / environmental basis). The following principles will be considered when assessing such proposals:

1. The location of the SWM facilities in the flood plain will have no impact on natural hazard management or fluvial processes, while still maintaining its intended functions;
2. The location of SWM facilities in the flood plain will result in a *net ecological benefit* for the planning and catchment area, it is shown to improve habitat and storage of flood flows e.g. wetland creation;
3. Cultural benefits from the location of SWM facilities in the flood plain are accrued but encroachment in the flood plain cannot be justified solely on the merit of cultural benefits;
4. The SWM facilities must meet design and maintenance performance requirements for the receiving watercourse;
5. SWM facilities must satisfy the approval requirements of the local municipality, Ministry of Environment and Climate Change and other affected environmental approval agencies; and
6. On-line SWM facilities will only be considered in the context of a current subwatershed plan and where the facility is within a not-apparent valley, where no fish habitat exists and no adverse environmental impacts will result from the works.

i) Storage yards, parking areas for equipment, vehicles and materials, provided they are properly anchored to prevent their transportation downstream during flood conditions into bridges or other debris-catching areas or removable within the limited time available after a flood warning or not subject to major damage by floods. No storage of explosive pollutant, buoyant, corrosive, or flammable liquid materials which may be dangerous shall be permitted. This does not include spoil, dirt or other stockpile materials that cannot be easily moved.

4.2.3 Watercourse/Shoreline Erosion Hazard Policies

1) As per Policy 4.2.1, a new building or addition may be permitted:

- i) Near a slope, embankment or shoreline which exhibits signs of instability and/or erosion, provided that it is set back a horizontal distance measured from the toe of the slope which allows for 100 times the estimated annual recession rate plus a stable slope allowance of three times the height of the bank/bluff.
- ii) Where a bank has been determined to be stable with no erosion potential in the next 100 years by a qualified engineer, the horizontal setback requirement would be equal to 8 metres plus the depth of the watercourse, to a maximum setback of 15 metres measured from the top of the bank.
- iii) For inland canal systems, the minimum setback is 7.6 metres from the top of the bank provided that there is sufficient erosion protection along the canal. If no erosion protection is in place, the setback requirement is 10 metres from the top of the bank.

2) Major renovations including major structural changes/improvements to the existing structure (i.e. major changes to floor plans, roof lines, foundation, etc.) will be deemed new construction and will not be permitted within stable slope and the 100 year erosion allowance. Normal/typical maintenance and upkeep of an existing structure (i.e. new siding, replacement of windows, shingles, etc.) will be permitted provided the use of the structure has not changed and additional living space (For example, new bedrooms) has not been created.

3) No fill will be permitted to increase the grade of the slope to a point greater than 3:1 (Horizontal: Vertical).

4) In specific cases where buildings, structures or private access roads already exist, reconstruction or alteration may be permitted subject to the following:

- a) Best efforts must be undertaken to relocate the existing structures and/or access route outside of the Regulation Limit.
- b) A qualified professional must complete a geotechnical study to determine the risk of the proposed work. The study will include an assessment of the stability of the slope, rate of erosion or recession of the slope, access issues and an assessment of the construction technique on the slope. The design of any works must ensure that the long-term stability of the slope is maintained and that no risk to life or property damage is anticipated.
- c) No adverse environmental impacts to existing natural features and functions.
- d) The work can be undertaken without the installation of shoreline structures (i.e. hardening of the shoreline)

5) Other types of proposed development projects will be assessed on a site specific basis.

4.2.3.1 Alterations to Waterways/Shorelines

In accordance with Section 28(25) of the Conservation Authorities Act, a "*watercourse*" means an identifiable depression in the ground in which a flow of water regularly or continuously occurs. This may include rivers, streams, creeks, ditches and municipal drains. Watercourses may be natural or they may be man-made, as is the case with open municipal drains. Watercourses play a critical role in the drainage of the landscape and any interference with a watercourse could have significant implications for flooding and erosion at the site of interference and for some distance up and downstream.

The LTVCA mapping of the Regulation Limit shows the location of watercourses at a planning area level of detail. Site specific information on the exact location and characteristics of a watercourse may be required as a prerequisite in reviewing any proposed development or site alteration in close proximity to a watercourse. As per the Conservation Authorities Act, the LTVCA considers open man-made channels and municipal or private drains to be watercourses.

The straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or other watercourse will only be permitted with prior written approval of the LTVCA. Activities conducted pursuant to the Drainage Act, where the Conservation 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 will have permissions granted through that process.

Permits are required from the Conservation Authority for alterations to waterways and shorelines. These activities include but are not limited to:

- breakwalls,

- other similar marine works on or near banks or shorelines of watercourses or lakeshores,
- docks,
- stairs on bluffs/banks,
- boat ramps, boat lifts, boat houses,
- dredging,
- revetments, rubble steel groynes, jetties, etc.

Any proposed work must comply with the following guidelines:

- a) Works on or near watercourses must not adversely restrict the passage of flood waters or adversely redirect flows.
- b) Where protective works are being installed the works must be designed or certified by a qualified engineer in accordance with Sections 4.2.2 and 4.2.3.
- c) Works on watercourses and lakeshores must not adversely affect other neighbouring properties. A qualified professional typically a Drainage Engineer or Coastal Engineer is required to address impacts.
- d) Shoreline construction activities may be affected by Section 14 of the Public Lands Act and/or Section 35 of the Fisheries Act. Additional authorizations and/or compensation agreements may be required. Approvals from these agencies will be required as part of the Authority's complete application process.
- e) Dredging proposals will be reviewed in accordance with the above. In addition, concerns for fish habitat management requirements subject to DFO approval will also need to be addressed. Sediment sampling and testing may be a requirement of approval depending on underlying sediment type and upstream drainage conditions. Side casting of sediment will not be approved. Sand on sand disposal options in open lake areas will be considered subject to MNR and DFO requirements/ approvals.
- f) Typically, docks must be of a floating or pile type construction. Approval of a dock must have regard for existing structures located both updrift and downdrift of the proposed dock. Site specific review may be required by Transport Canada. In addition, depending on the proposal, the applicant may be required to have a qualified professional engineer design the structure.
- g) Stairs or other access facilities proposed on a slope or bluff are required to be designed by a qualified professional engineer.
- h) No negative impacts as a result of the works should infringe 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.
- i) Geotechnical issues are addressed to the satisfaction of the Authority.
- j) Adequate sediment and erosion control measures are incorporated and utilized during the construction phase and maintained throughout construction phase of the work and left in place until the site is rehabilitated and/ or stabilized back to or better than existing conditions. All devices must be removed once site stabilization has occurred.
- k) Notwithstanding the above noted policy, bridges and other major structures proposed on municipal drains will require prior written approval from the Conservation Authority.

l) Minor flood plain and watercourse alterations will be evaluated on an individual basis, having consideration for the following:

1. 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;
2. Maintenance of the natural topography of the watercourse system, flood conveyance and flood storage;
3. No adverse impacts on fluvial processes;
4. No adverse impacts on groundwater recharge/discharge;
5. Geotechnical issues are addressed;
6. Implementation of recommendations within LTVCA-endorsed watershed or subwatershed studies or Environmental Assessment;
7. Waters are not directed to different watersheds without prior studies outlining impacts to both systems.

m) The Authority encourages the retention of all watercourses and adjacent resource areas in their natural state.

n) The Authority generally does not support the construction of in-stream, by-pass and connected ponds which link directly into a watercourse.

o) Dugout ponds and off-line by-pass ponds may be permitted within the flooding hazard limit if it can be shown that the following general and specific requirements can be satisfied:

- 1) No negative impact on natural features and ecological functions;
- 2) No negative impacts on water quality, including thermal pollution;
- 3) All fill, including dredged material is removed from the flood hazard limit;
- 4) No net loss of wildlife habitat;
- 5) No impacts on flood plain fluvial processes; and
- 6) Buffer is maintained between the waterbody and the pond so as not to create bank instability of either the waterway or the pond.

4.2.4 Dynamic Beach Policies

The wave uprush limit is 15 metres landward of the 100 year flood line with the dynamic beach allowance located 45 metres from the 100 year flood line. Any new construction will be required to be located outside of the wave uprush zone and the dynamic beach allowance and be suitably floodproofed. Proposed new construction will be encouraged to locate outside of the dynamic beach region, if this is not possible then the proposed construction will be required to not be lakeward of the rear building line of adjacent properties. The proponent shall be required to install engineered footings and foundations. No basements will be allowed in Eriau and Rose Beach Line.

4.2.5 Wetland Policies

New development and site alteration is not permitted in wetlands. Some restricted works may be permitted provided that they are supported by an Environmental Assessment.

New drainage works (private and municipal) such as open ditches and agricultural field tiling are considered development. New drainage works within a PSW or wetland will not be permitted due to the negative impacts that would result to the hydrological functions of the system. Permission must be obtained prior to commencement of the development/site alterations.

4.2.5.1 Wetlands – Area of Interference

Wetlands can be impacted by development and site alteration that is located outside of the wetland boundary. To address this concern, an Area of Interference is established around all wetlands in order to identify those lands which, if developed, could potentially have a negative impact on the wetland and be negatively impacted by the wetland. The width of the actual Area of Interference will differ for each situation because it is based on a site by site assessment having regard for both the characteristics of the wetland and for the specifics of the proposed development or site alteration.

Consistent with the Provincial standards, and to ensure wetland protection, a standard Area of Interference has been applied to mapping of wetlands at a planning level. The Area of Interference for all Provincially Significant Wetlands is 120 metres and within 30 metres of all *other wetlands*.

The term Area of Interference of a wetland is a term that applies to planning for wetlands as natural hazards. Adjacent Lands are identified around wetlands for natural heritage purposes. It should be noted that the extent of adjacent lands is not always consistent with the extent of Area of Interference.

1. Development and site alteration within the area of interference of a wetland shall only be permitted by the Authority if the applicant can demonstrate that such activity will have no impact on the control of flooding, erosion, pollution or the conservation of land. This will involve a process where LTVCA and the proponent (with the help of a qualified professional as required) will assess a proposed undertaking, having regard for the sensitivity of the wetland features and functions, the extent of encroachment and impact of use. This initial assessment will assist in determining the need for an EIA as well as the permitting requirements pursuant to Ontario Regulation 152/06. If the Authority determines that an EIA is required, the terms of reference including the need for a hydrologic study, and scoping (scoped EIA vs. full EIA) will be prescribed as part of the permitting requirements. The EIA shall be prepared by a qualified professional and demonstrate that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development.

2. Drainage works within the adjacent lands of a wetland may be allowed subject to studies showing no negative impacts.

3. The following policies shall apply to regulating development and site alteration on adjacent lands within 120 metres of Provincially Significant Wetlands and within 30 metres of all other wetlands:

A. Within 30 Metres

i) No new development and site alteration shall be permitted within 30 metres of a Provincially Significant Wetland unless it can be demonstrated through an EIA that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development and no negative impacts to the development or surrounding lands as a result of the proposal.

ii) Where buildings and structures already exist within 30 metres of a Provincially Significant Wetland, any reconstruction, alteration or additions may be permitted if it can be demonstrated through an EIA that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development.

iii) Where there is an existing lot of record, in existence prior to the adoption of these policies and where no land exists outside of the 30 metre area of interference, development and site alteration may be permitted within 30 metres of a Provincially Significant Wetland if it can be

demonstrated through an EIA that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development and no negative impacts to the development or surrounding lands as a result of the proposal.

iv) All development and site alteration approved through the above EIA process will require a permit pursuant to Ontario Regulation 152/06.

B. Between 30 & 120 Metres

i) Development and site alteration may be permitted within 30 to 120 metres of a Provincially Significant Wetland if it can be demonstrated that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development and no negative impacts to the development or surrounding lands as a result of the proposal. A scoped study may be required depending on site conditions.

ii) All development and site alteration approved through the above EIA process will require a permit pursuant to Ontario Regulation 152/06.

4. The following policies apply to regulating development and site alteration on lands located within 30 metres of Other Wetlands:

i) Development and site alteration may be permitted within 30 metres of other Wetlands if it can be demonstrated through an EIA that there will be no negative impact on the hydrologic functions of the wetland as a result of the proposed development.

ii) Any development and site alteration approved through the above EIA process will require a permit pursuant to Ontario Regulation 152/06.

iii) The Authority may upon review, issue permission if, in the opinion of the Authority staff, the proposed undertaking will have no impact on the control of flooding, erosion, pollution or the conservation of land.

5 INQUIRY SERVICES

5.1 REQUEST FOR INFORMATION LETTERS

Inquiries are received on a daily basis from solicitors, real estate agents, consultants, municipalities, and the general public interested in determining whether regulations made pursuant to Section 28 of the Conservation Authorities Act affects a given property. This information sharing process is important in developing a pro-active approach to land use planning and resource management for the Authority. The LTVCA views its request for information service as an opportunity to educate landowners about Natural Hazard's and Features on the subject property. It also provides an indication of the potential limitations for development to a landowner or prospective home-buyer.

1. The LTVCA will provide a letter to advise when the subject property is affected by the Regulation Limit.
2. If the subject property is affected by the Regulation Limit mapping will be provided to indicate its extent.
3. For inquiries not affected by the Regulation Limit a letter indicating no concerns will be provided
4. A fee consistent with those identified in the Authority's Fee Schedule, a copy of which is provided for in Appendix 9.1.2 of the Manual applies to all Requests for Information Letters prepared by the Authority.
5. A fee will be applied to each roll number for which a response has been requested.
6. If an inquiry for a property outside the LTVCA's jurisdiction is received the asking party will be notified and the inquiry will be forwarded on to the appropriate Conservation Authority by providing a copy of the letter in a timely manner to the Conservation Authority which has jurisdiction.
7. The LTVCA will endeavour to respond within two weeks of receiving the request.
8. The LTVCA will require inquiries be accompanied by a survey, municipal address, lot and concession, municipality, roll number or Property Identification Number (PIN).

6 IMPLEMENTATION & INTERPRETATION

This section is intended to assist with the implementation and interpretation of the goals and objectives, the guiding principles and the policies contained in this manual.

6.1 GENERAL

1. This Regulations and Planning Policy Manual applies to all applications, matters or proceedings commenced after August, 2016. Transition policies will be developed to address those situations where the Authority has imposed or signed off on conditions' which have effectively established the principle of development (e.g. phased plan of subdivision, Area Plan). In general, applications received on or prior to August, 2016 will be processed using previous guidelines and all applications received after August, 2016 will be processed using the new policies.
2. This manual will be posted on the Authority's web-site to allow ready access to this information by landowners, municipalities, development professionals and other stakeholders.
3. The Regulations and Planning Policy Manual is to be read in its entirety and all relevant policies are to be applied to each situation.
4. Italicized terms in this Policy Manual are defined in the glossary. The defined terms are intended to capture both the singular and plural forms of these terms in the manual.
5. Authority Staff will undertake a review of the Regulations and Planning Policy Manual as needed to evaluate the effectiveness of the policies and to incorporate new policies which reflect the findings of up to date research, studies and any changes to the Act. Any recommended changes will require the approval of the LTVCA Board of Directors.
6. The policies in this manual will guide the LTVCA's decision making. It is the responsibility of the proponent to research and address the requirements of other legislation, policies and standards that are administered by other agencies or municipalities.
7. The LTVCA relies on Technical Manuals and Implementation Guidelines that are prepared and updated by other agencies such as the Ministry of Natural Resources and Forestry or the Ministry of Environment and Climate Change. It is the responsibility of the proponent to ensure that the most up to date information is being used.
8. In cases where both a Planning Act approval and a Section 28 (Conservation Authorities Act) approval are required, the LTVCA will rely on the broader Planning Act approval process to establish the land use and the Section 28 process will then be utilized to implement specific requirements. The same policy applies to other legislation such as the Environmental Assessment Act. LTVCA permit requirements will be identified through these other processes. LTVCA participation in these processes does not release the proponent from the requirement to obtain specific LTVCA permits in Regulated areas.
9. Applicants are encouraged to meet with Authority Staff prior to submitting their development applications and proposals so that any issues and concerns can be identified. This pre-consultation should also include municipalities and other agencies where appropriate. Through pre-consultation, Staff can advise applicants of technical studies and supporting information that may be required for the review process. This process allows for the early identification of potential constraints and opportunities which will assist with the scoping of information and study needs, the identification of realistic time lines and the assessment of project viability by the proponent.

10. Proponents are encouraged to work through the approval process in steps in order to manage expenditures of time and resources. For example, it is recommended that the principle of development be established with the appropriate approval bodies before proceeding to detailed design. The identification of appropriate milestones can be included in the pre-consultation process.

6.2 PROCESSING PLANNING ACT APPLICATIONS

6.2.1 Notification

In accordance with the Planning Act, the Authority shall be notified and circulated all applications that relate to lands that are located within the jurisdiction of the LTVCA and directly impacted by the regulations. Furthermore, the Authority shall be notified of the resulting Staff, Committee of Adjustment and/or Council decisions (e.g. adopted, refused, and appealed).

6.2.2 Review

The main objectives of the Authority's review process are to:

1. screen development applications to determine if and where a Provincial or Authority interest may be impacted;
2. identify the need for technical reports; and
3. specify conditions for approval or alternatively, provide rationale why the development cannot be supported.

In reviewing all development applications, Authority Staff will consider applicable policies and provisions contained in this manual. Authority Staff will review mapping to locate the regulated areas, and advise applicants of any issues or requirements. While conditions for each application are determined on a site-by-site basis, they are prepared with regard for the potential cumulative effect on the watershed.

In its advisory capacity, any concerns or issues that are identified by the Authority will be directed to the appropriate decision making authority, within the timeframe specified by the circulating agency, provided that all of the necessary supporting information is available.

6.2.3 Appeals

Upon receipt of a Notice of Decision, Staff will review it to ensure that all of the Authority's concerns have been adequately addressed. In cases where the Authority's concerns have not been properly addressed, Staff shall determine if an appeal should be filed with the Ontario Municipal Board. The Authority may decide to appeal a decision that has been made by a Municipal Council or a Committee of Adjustment on the basis that the decision is not consistent with the requirements of the PPS or the policies contained in this policy manual. LTVCA Staff will prepare and submit a formal appeal within the established timeframe, indicating that the decision to appeal needs to be confirmed by the Authority's Board of Directors. Subsequently, a report is to be filed with the Board of Directors for consideration and based on their decision Staff will either confirm or withdraw the administrative appeal.

6.2.4 Approval

In order to ensure that the Authority's areas of interest are addressed, specific conditions can be requested to be included in the subdivision agreement and site plan control agreement through the approval process.

6.2.5 Technical Studies

When reviewing Planning Act applications, Authority Staff frequently require additional information in the form of technical supporting studies in order to undertake their analysis. The following list represents the supporting documentation which will most commonly be requested to assist in the review of development proposals:

- Cut and Fill Plan
- Environmental Impact Study (EIS) -Comprehensive or Scoped
- Stormwater Management Plan
- Sediment and Erosion Control Plans
- Flood Plain Analysis Study
- Geotechnical Study
- Grading and Leveling Plan
- Hydraulic Analysis
- Hydrogeological Study
- Monitoring and Maintenance Plan
- Site Restoration Plan
- Shoreline Process and/ or Geomorphology Study
- Subwatershed Study or Plan
- Watercourse Stabilization Plan

Consultants may be required to prepare a Terms of Reference for any technical study that is requested by the LTVCA. Consultants are strongly encouraged to meet with Authority Staff before undertaking the technical study to ensure that the prepared terms of reference addresses all of the LTVCA's requirements. This step is recommended because in many cases, there is no obvious industry protocol or accepted methodology for undertaking certain types of technical studies or for preparing inventories.

The technical study will be reviewed and Staff will advise whether the submission:

1. addresses the Authority's area of interest and development can be supported; or
2. is incomplete and more information is required and therefore the development application cannot proceed; or
3. does not address the Authority's area of interest and the development cannot be supported as presented.
4. addresses the Authority's area of interest and based on the information provided the development cannot be supported.

All technical submissions will identify all other suitable options for avoidance of the hazard, and if that is not possible identify all available information that provides a historical context for the related application, development or subject lands. This may include previous approvals, agreements, and secondary/master plans. A copy of this information must be appended to the technical study for the Authority's review process.

6.2.6 Peer Review

Technical reports are to be peer reviewed by a third party, at the expense of the proponent. Peer review is a process used to evaluate the work performed by one's peers to ensure that it meets specific criteria. The process of peer review subjects an author's work to the scrutiny of other experts in the general field.

Through the peer review process, the LTVCA will assess the technical report for the following:

- Confirm that it has been prepared by a qualified professional;
- Ensure that accepted technical guidelines, standards, methodologies or procedures have been followed;
- Check that appropriate data was utilized or if other data could have been used and if the information was properly analyzed;
- Check that relevant existing comprehensive studies for the area have been utilized or cross referenced; and
- Determine if the technical conclusions are reasonable and if recommendations for future monitoring are included or are necessary.

The peer review process can involve review of the entire report or be limited to specific sections of a report. The Authority reserves the right to choose the extent to which a report is scrutinized based on the experience of the peer reviewers with the report authors and the specific resource issue. Peer review is not intended to be a substitute for professional design services.

6.3 PROCESSING SECTION 28 PERMIT APPLICATIONS

6.3.1 The Process

The Authority issues permits under the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, in accordance with Section 28 of the Conservation Authorities Act. The LTVCA administers this regulation from the perspective of the control of flooding, erosion, dynamic beaches, pollution or the conservation of land as it may be affected by development.

As previously noted, it is the Authority's policy to resolve land use planning issues first before considering any development proposal on lands which are affected by the LTVCA's Regulation.

The intent of the Authority's application review process is to minimize the creation of new problems or the aggravation of existing ones, both on the site where development is proposed as well as on neighbouring lands. Applications which conform to the requirements of the Regulation may be approved by Authority Staff who have been granted responsibility to process such proposals.

All of the conditions of an approved application must be completed to the satisfaction of the Authority, within the timeframe given on the permit. If the conditions are not satisfied within this time frame, the approval shall become null and void. If the intended scope of work remains unchanged, an applicant may request an extension. The total length of a permit including extension may not exceed two years. Projects requiring more than two years to complete may be granted permission up to five years by the LTVCA Hearing Committee. Full procedures for the review and processing of applications for Section 28 approval are provided in Appendix 9.1.3 of the Manual.

If an application has been submitted to the CA for review and the submission is not considered 'complete' by staff, that being not all required information was submitted in order to undertake a review, the applicant will be contacted and the additional information will be requested. If no further information and/or contact from the applicant is received within 6 months of the submission the applicant will be contacted for a time frame on when the additional information requested will be received. If the file remains inactive for an additional six months with no information being supplied and/or contact from the applicant the file will be deemed inactive and returned to the applicant minus any fees paid.

6.3.2 Building Code

Chapter 51, Section 6 (1) of the Building Code Act stipulates that a chief building official may only issue a building permit where a proposed building does not contravene any other applicable law. It is essential for all building officials to ensure that an Authority permit has been secured for a development prior to issuing a building permit. Copies of all permits issued by the Authority should be forwarded to the building officials of local watershed municipalities as soon as possible thereby advising that the Authority's concerns and requirements have been addressed.

6.3.3 Hearing

Without the opportunity for a hearing, the Authority cannot refuse an application made pursuant to Ontario Regulation 152/06. If an application does not meet the requirements of LTVCA policies and operational guidelines, Staff will offer the applicant an opportunity for a hearing. Only the LTVCA Hearing Committee appointed by the LTVCA Board can deny the approval of an application. If the Authority's Board of Directors denies the application then applicant can subsequently appeal to the Mining and Lands Commissioner. The Mining and Lands Commissioner of Ontario is appointed by the Minister of Natural Resources. A procedural manual for conducting hearings is provided in the Appendix of the Manual (See Appendix 9.1.4)

6.3.4 Enforcement

The objective of enforcement is to ensure compliance with the policies, requirements and regulations that have been adopted by the Authority. Enforcement activities requiring legal action are conducted through Provincial Offences Courts with all the rights, responsibilities and potential consequences that brings. Provisions in the Conservation Authorities Act allow the Courts to issue Rehabilitation Orders, requiring site restoration or the removal of non-compliant development. Every reasonable attempt will be made to work cooperatively with a proponent not in compliance to bring violators into compliance without pursuing legal recourse.

6.3.5 Technical Studies and Peer Review

The requirements of Section 6.2.5 and 6.2.6 shall apply.

6.3.6 Fees

The Authority's fee schedule for Section 28 reviews is provided in the Appendix of the Manual (See Appendix 9.1.2).

6.4 OTHER TECHNICAL REVIEW PROCESSES AND GUIDANCE DOCUMENTS

6.4.1 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 to address any potentially adverse environmental effects before any works are undertaken.

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 depends on the scale and complexity of the project and its anticipated impacts on the environment.

Consequently, there are four types of environmental assessments under this Act:

1. Screening (including class screenings): a responsible authority documents the environmental effects of a proposed project and determines methods by which the elimination or mitigation of harmful effects through modifications to the project plan can be planned.

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 and Climate Change 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 undertaken or likely to be significant, or when warranted by public concern. The overall federal *environmental assessment process* is administered by the Canadian Environmental Assessment Agency.

6.4.2 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. 1190,c.E.18,s.2).

The concept of the '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,

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 man,

e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from the activities of man, or

f) any part or combination of the foregoing and the interrelationships between any two or more of them.

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 (EA's).

Broadly speaking, Individual EA's are required for projects that do not fall under the umbrella of any of Ontario's 11 Class EA projects. Individual EA's require that a Terms of Reference (TOR) be developed and submitted to the Ministry of the Environment and Climate Change. 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:

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 (preapproved);
- B. improvements/minor expansions to existing facilities (screening);
- 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 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.

These are:

- clear identification of the problem;
- identification of alternative solutions and impacts;
- establishment of the preferred solution;

As part of the planning review process the Conservation Authority is expected to review and comment on all Class EA's occurring within the watershed boundaries. Generally speaking, the role of the Conservation Authority in providing such comments is to ensure that the environmental and hazard concerns are identified early and considered throughout the EA process. This is to ensure that the proposed impacts of natural hazards 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.

6.4.3 Drainage Act

The Drainage Act provides a procedure whereby municipalities may, with a valid petition of landowners in the "area requiring drainage" for agricultural practices, provide a legal outlet for surface and subsurface waters not attainable under common law. In return, the landowners within the defined drainage watershed pay for the privilege of the drainage outlet. Provisions for the distribution of future maintenance and repair costs are included as part of the drainage report.

The Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is responsible for the Drainage Act with implementation activities occurring at the municipal level. The LTVCA is provided the opportunity to comment in accordance with notification requirements outlined in the Drainage Act for certain types of activities. Approval under the Drainage Act does not supersede the Conservation Authorities Act. Permission is still required from the Conservation Authority for the works. It is therefore recommended that the appointed Drainage Engineer consult with the Conservation Authority during the preparation of the Drainage Report to ensure the Conservation Authority's concerns are addressed. LTVCA input is guided by the policies in this manual.

The Conservation Authority provides comments on both new drainage proposals and drain maintenance (in accordance with approved policies and procedures). Under the review process of drainage works, the engineers report and/or drain maintenance forms are viewed as the submission of the 'application' package. All studies, plans and profiles for the works will be required in order for the Authority to view the submission as complete. If information is missing, the Drainage Superintendent will be contacted and informed of the missing information. As stated previously in this document it is the proponent's responsibility to obtain and pay for any and all necessary studies / reports / plans that may be required to support a submission for development and/or site alteration.

6.4.4 Aggregate Resources Act

While Conservation Authorities do not regulate aggregate extraction activities, they actively participate in the review of applications made pursuant to the Aggregate Resources Act. Proposals for aggregate extraction will sometimes involve lands regulated by the Conservation Authority. Class A license applications will require the preparation of plans showing existing features, operational plans, progressive rehabilitation, final rehabilitation and cross-sections. Accompanying documents will include hydrogeological reports, noise and dust studies, archaeological investigations and natural heritage assessments as per the Ministry of Natural Resources and Forestry requirement. The LTVCA will undertake a peer review of pertinent reports, often on behalf of member municipalities but also to ensure that requirements for Section 28 approval are satisfactorily addressed. Conservation Authority considerations will include: stockpiling and berming of soil relative to flood conveyance, site drainage, slope stability, proximity to wetlands, impacts on neighbouring lands (including LTVCA lands), rehabilitation options and extraction relative to the groundwater table. A scoping exercise with the applicant and/or the consultants will help to clarify Environmental Impact Study and reporting requirements where Section 28 approval is required by the LTVCA. This will help to ensure that there will be no redundancy with report/plan submissions required in support of an application made pursuant to the Aggregate Resources Act.

6.4.5 Source Water Protection Plan

Source water protection planning is a province wide initiative that the LTVCA is participating in. Protecting water at the source is the first barrier in a multi- barrier approach in protecting surface and

groundwater resources. An understanding of groundwater recharge areas, the susceptibility of groundwater to contamination and a strategy in place to ensure the safe and secure water resource for the future is critical. While the technical work (Assessment Reports and Source Protection Plan) was developed with extensive support from the local Conservation Authorities, implementation and administration of the Source Protection Plan is the responsibility of the Municipalities. LTCVA staff and the broader TSR SPR staff are available for technical support regarding implementation.

7 GLOSSARY & COMMON ABBREVIATIONS

7.1 GLOSSARY

The definitions in the glossary are consistent with those provided in the Authority's Generic Regulation as well as in the Provincial Policy Statement.

Accepted Engineering Principles: means those current geological, hydrologic, hydrogeologic coastal 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): means the 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 and Forestry.

Accessory: when describing a use, building or structure means a use, a building or structure that is subordinate and exclusively devoted to a main use, building or structure and located on the same lot.

Adjacent Lands: means those lands which are contiguous to a natural heritage feature or area where there is a potential that development or site alteration will have a negative impact on the feature or area. The adjacent lands provide a trigger for the need of an EIS.

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

Areas of Natural and Scientific Interest (ANSIs): means areas having life science and earth science values designated by the MNRF for protection, scientific study or education, chosen as representative of certain biological or geological regions.

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 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 to name a few.

Biodiversity (Biological Diversity): means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Buffer: means planned and managed strips of land and vegetation located between natural heritage features/areas and development sites which are intended to protect the natural heritage feature.

Confined System: means a watercourse system where the physical presence of a valley corridor containing the system is visibly discernible. Also "well-defined system or

apparent system".

Conservation of land: means the protection, management or restoration of lands within the watershed ecosystem for the purpose of maintaining or enhancing the natural features and ecological functions and hydrologic functions, within the watershed.

Cumulative Effects: means the combined effects of all activities in an area over time and the incremental effects associated with individual projects in an area over time.

Development: under the Provincial Policy Statement 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 2.1.4 (a), 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 2.1.5(a)

Development: under 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.

Development, Interference with Wetlands and Alterations to Shorelines and Watercourses

Regulation: means the regulation under the Conservation Authorities Act that allows the LTVCA (and all Conservations Authorities across the province) to:

- a) Prohibit, regulate or provide permission for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or changing, or interfering with a wetland.
- b) Prohibit, regulate or provide permission for development if the control of flooding erosion, dynamic beaches, pollution or the conservation of land may be affected by the development.

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

Dynamic Beach: Means areas of inherently unstable accumulations of shoreline sediments. The dynamic beach hazard limit consists of the flooding hazard limit plus a dynamic beach allowance.

Ecosystem: means systems of plants, animals and micro-organisms together with nonliving components of their environment, related ecological processes and humans.

Ecosystem Approach: means the linkages and relationships involving air, land, water and living organisms. The approach is adaptive and recognizes the dynamic nature of watersheds and watercourses and their respective landforms. It is intended to restore

and maintain the integrity, quality, productivity and wellbeing of the watershed and subwatersheds.

Endangered Species: means any indigenous species of fauna or flora which on the basis of the available scientific evidence is facing imminent extinction or extirpation.

Environmental Assessment Process: means a process that is used to predict the environmental effects of proposed initiatives before they are carried out. It is used to identify measures to mitigate adverse effects on the environment and can predict whether there will be significant adverse environmental effects, even after the mitigation is implemented.

Environmental Impact Study (EIS): means a report prepared by qualified professionals (engineers, biologists) to address the potential impacts of development on natural heritage features and areas. The types of Environmental Impact Studies include

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

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

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

Environmentally Significant Areas (ESAs): means natural areas including wetlands or ANSIs which have been, designated for protection by a regional or local municipality. There are no ESAs in the LTVCA.

Erosion: means the action of surface processes (such as water flow or wind) that dislodges and moves soil, rock, or dissolved material from one location to another. Erosion can be a slow process that continues relatively unnoticed or can occur at an alarming rate. Examples of factors causing erosion may include:

- Overland Flow – rainfall or snowmelt surface water runoff (sheet, rill or gully erosion);
- Groundwater Seepage – groundwater discharging from soil (banks, bluffs, etc.);
- Surface Water Flow – movement of banks or beds of river, creek, or other watercourse;
- Wave Action – movement from waves along shorelines of ponds, lakes, bays, rivers, etc.; and
- Wind Action – movement due to suspension of particles, siltation, and/or surface creep.

Erosion impacts soil at the particle level by dislodging and removing the particles from the parent mass (with water or wind being the transporting agent).

Erosion Access Allowance: means the allowance that is needed for the purpose of maintaining sufficient access for emergencies, maintenance, and construction activities within Apparent and Not Apparent Valley Systems

Freeboard: means the horizontal extent of the regulated area is increased by adding an allowance of 0.3 metres to the applicable flood event standard where development could be impacted by flood levels aggravated by vehicle/boat generated waves, ice-jamming

or other factors.

Fill: means 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.

Fish Habitat: means the spawning grounds and nursery, food supply and migration areas which fish rely on to live.

Flood/Flooding: means a temporary rise in the water level which results in an influx of water in areas located adjacent to a watercourse that are usually not covered by water.

Flood Fringe: means the outer portion of the flood plain between the floodway and the limit of the regulatory flood. Flood depths and velocities have a tendency to be less severe in the flood fringe as compared to those in the floodway.

Flood Plain: means the area, usually low lands, adjoining a watercourse which has been, or may be covered by flood water.

Floodproofing: means a combination of structural changes and/or adjustments incorporated into the basic design and/or construction or alteration of individual buildings, structures or properties subject to flooding so as to reduce or eliminate flood damages.

Floodway: means the channel of a watercourse and the inner portion of the flood plain where flood depths, and velocities are generally greater 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 pose a potential threat to life and/or property damage.

Fragmentation: means the breaking up of a once large system into smaller parts. For example, the interruption of continuous forest cover has resulted in isolated forest fragments and limited forest ecosystem function.

Groundwater: means (1) Water occurring below the soil surface that is held in the soil itself. (2) Subsurface water or water stored in the pores, cracks and crevices in the ground below the water table. (3) Water occurring in the zone of saturation below the earth's surface.

Habitat: means the particular type of local environment occupied by an individual or a population.

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

Hazardous Substance: means substances which individually, or in combination with other substances are considered to pose a danger to public health and safety and the environment. These substances include a wide range of materials that are toxic, ignitable, reactive, corrosive, radioactive or pathological.

Infill: means the development of previously undeveloped lots or the creation of a residential lot between two existing developed lots of a similar size and which are

located on the same side of the road and are not more than 100 metres apart.

Meander Belt: means the area of land in which a watercourse channel moves or is likely to move over a period of time.

Minor Works: means a category of development within the flood plain which has relatively small economic value and will not lead to significant economic hardship if lost in times of severe flooding. The construction of minor works does not require detailed flood proofing measures and therefore there is an assumption of risk associated with the development.

Natural Hazards: means physical environmental processes operating near or at the surface of the earth and sites of unstable soils that limit potential uses of some lands. They may include floods, ice jams, soil erosion, and slope failures that have resulted in damage to property, injury to humans and loss of life. Marine clay, organic soils and karst topography are also considered to be natural hazards because they are unstable and sensitive.

Natural Heritage Features and Areas: means features and areas including significant wetlands, woodlands, valleylands, wildlife habitat, fish habitat, and significant portions of the habitat of endangered and threatened species which are important for their environmental and cultural values.

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.

Net Ecological Benefit: see Net Environmental Benefit

Net Environmental Benefit: (interchangeable with net ecological benefit) means striving to achieve a relative increase in environmental features and functions as a result of new development or land uses and/or from a rehabilitation plan associated with an aggregate extraction operation. Net environmental gain is measured by considering a variety of factors such as biological diversity. It is determined by comparing the state of the environment prior to development or rehabilitation occurring with the projected long-term results of measures that are intended to protect and enhance the environment. Net environmental gain does not mean that the state of the environment will stay the same. There may be some unavoidable losses on a project by project basis that will need to be reinstated and enhanced.

One Hundred Year Erosion Limit: means the total combined distance of the Toe Erosion Allowance, the Long Term Angle of Stability and the Erosion Access Allowance.

One Hundred Year Erosion Rate: The predicted lateral movement of a watercourse or shoreline over a period of one hundred years.

One Hundred Year Flood: means that flood which is based on an analysis of precipitation, snow melt, or a combination thereof, having an average return period of 100 years or having a 1% chance of occurring or being exceeded in any given year. It is the minimum acceptable regulatory flood standard.

Other Wetlands: means any wetland that meets the definition of a wetland that is not Provincially Significant.

Pollution: means any deleterious physical substance or other contaminant which has the potential to be generated by development in an area where the Authority's regulation applies. Pollution can include excessive sediment caused by inadequate sediment and erosion control measures.

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

Provincially Significant Wetlands: means a wetland designated by the MNRF using the OWES methodology and protected under Provincial planning policy and the Conservation Authority Regulations.

Qualified Professional: means a person with specific qualifications, training, and experience authorized to undertake work in accordance with the policies in accepted engineering or scientific principles, provincial standards, criteria, and guidelines, and/ or to the satisfaction of the LTVCA. Such individuals are typically registered with a professional or licensure body. In the context of natural hazards, this is typically an engineer, but in other contexts could include professional geoscientists, professional foresters, registered professional planners, etc.

Regulation Limit: means the outside limit of all hazards and wetlands.

Regulatory Flood Datum: means an elevation above the regulatory flood level which includes a freeboard factor of 0.3 metres for safety.

Regulatory Flood Level: means a water level based on the applicable regulatory event.

Regulatory Flood Plain: means the approved standard(s) which is used in a particular watershed to define the limits of the flood plain for regulatory purposes. In the case of the Lower Thames Valley watershed, the Regulatory Flood Standard is the greater of either the 100 Year Flood Event or the April 1937 1:250 Flood Event.

Replacement: means the removal of an existing structure and the construction of a new residential or habitable structure of the same or smaller size.

Replacement Structure: means structures that replace existing building or structures, including buildings and structures designated as architecturally or historically important and that have (recently) been demolished or destroyed but does not include reconstruction on remnant foundations.

Restricted Uses: means

- Conservation uses or activities such as wildlife or fisheries management, forestry or passive recreation;
- flood and/or erosion control structures;
- facilities which by their nature must locate near water or traverse water;
- ancillary facilities of an adjacent land use which are of a passive, non-structural nature and do not adversely affect the natural hazard or natural heritage feature or function; and
- municipal infrastructure including roads and utilities/servicing (i.e. sewer lines, gas pipelines, hydro facilities).

The establishment of restricted uses must be supported by an EIS or an Environmental Assessment.

Riparian Rights: means the common law rights of owners of property along a river or shoreline or other bodies of water. The rights include making reasonable use of the water flowing past their land.

Shoreline: means the furthest landward limit bordering a large body of water. For the Lower Thames Valley's area of jurisdiction, Lake St. Clair, Lake Erie form the shoreline areas along the region's northwest, and south boundaries respectively.

Shoreline Hazard Limit: means the limit which encompasses the Flood Hazards and the Erosion Hazards.

Significant: as defined in the PPS:

- a) In the case of wetlands generally refers to areas identified as provincially significant by the MNRF using evaluation procedures established by the Province as amended from time to time. Wetlands not meeting the provincial significance criteria may be classified as locally significant.
- b) In the case of endangered species and threatened species, means the habitat as approved by the MNRF that is necessary for the maintenance, survival, and/or 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 the case of woodlands, means 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 the case of other features and areas including valleylands and wildlife habitat, it means ecologically important in terms of features and linkages, function representations or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system.

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

Source Water Protection: means the action taken to prevent the pollution of drinking water sources, including groundwater, lakes, rivers, and streams. Source water protection includes developing and implementing a plan which may include the management of land uses and potential contaminants. Source Water Protection Planning is enacted by the Clean Water Act and the local Source Protection Plan and implemented by the Municipalities and/or by their acting agents.

Special Concern (formerly "vulnerable"): means those species which have characteristics that make them particularly sensitive to human activities or natural events.

Special Policy Area (SPA): means an area in a community that has historically existed

in the flood plain and where strict adherence to certain Province-wide policies pertaining to new development would result in social and economic hardship for the community. As a result, site specific policies are formulated and applied within the defined limits of the Special Policy Area.

Stable Slope: means a slope that shows no sign of stress such as tension cracks, localized sloughing, seepage and or creep, or erosion. A stable slope tends to be well vegetated and the ratio of the forces resisting movement over the active forces such as gravity and seepage exceeds 1.5.

Stable Slope Allowance: means the setback implemented to buffer development from the hazards of slope instability and to prevent the influence of development on the rate of slope movement. In the absence of detailed geotechnical information, this setback is based on an assumed stable slope gradient of 3 horizontal units to 1 vertical unit (3: 1) measured landward from the toe of slope. The term Stable Slope Allowance can be interchanged with the terms "Long Term Angle of Stability" and "Stable Angle of Repose."

Stewardship: means the responsible care of natural resources and wildlife on a watershed basis so that it is preserved for future generations.

Subwatershed: means a small watershed or subsection of a watershed, usually a tributary.

Threatened Species: means species which are likely to become endangered in Canada if limiting factors are not reversed.

Toe Erosion Allowance: means the allowance implemented to buffer development from the hazardous effects of erosion at the base of a slope. The allowance also buffers the natural river and shoreline processes from the influences of development. This allowance is determined based on the natural processes.

Two Zone Approach: means the approach where certain areas of the flood plain are considered to be less hazardous than others and where development could safely occur. The flood fringe defines the area where development may be permitted subject to appropriate floodproofing. The floodway defines that portion of the flood plain wherein development is prohibited or restricted.

Unconfined System: means a river or stream system where there is no discernible valley slope or bank that can be detected from the surrounding landscape. Also defined system or not apparent system".

Valleylands: means a significant natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. Natural valleylands refers to valleylands that are generally undisturbed and have natural vegetation cover.

Valley Top of Slope: means the break in slope point between the valley side slope and the tableland.

Watercourse: means an identifiable depression in the ground in which a flow of water regularly or continuously occurs. A watercourse includes rivers, streams, creeks, swales, ditches and municipal drains

Watercourse Hazard Limit: means the limit which encompasses the Flood Hazards and the Erosion Hazards.

Watershed: means all the lands drained by a river or stream and its tributaries.

Wetland: Under the CA Act 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 soil, 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).

Wetland: Under the Provincial Policy Statement means:

lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at that 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 use 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 in the natural environment which wildlife depend upon for their survival as self-sustaining populations including land, and water needed for shelter, protection and food supply. Wildlife includes all wild mammals, birds, reptiles, amphibians, fishes and invertebrates. Areas may include deer yards, nesting areas, aquatic habitat, waterfowl staging areas and habitat of endangered, threatened and vulnerable species.

Woodlands: means treed areas that provide environmental and economic benefits such as erosion prevention, water retention, provision of habitat, recreation and the sustainable harvest of woodland products.

7.2 COMMON ABBREVIATIONS

ANSI- Areas of Natural and Scientific Interests
BMPs -Best Management Practices
CA -Conservation Authority
CO- Conservation Ontario
DFO -Fisheries and Oceans Canada
DAR- Development Assessment Report
EA -Environmental Assessment
ECCC- Environment Canada and Climate Change
EIS -Environmental Impact Study
ESA- Environmentally Significant Area

LTVCA -Lower Thames Valley Conservation Authority'
MMAH-Ministry of Municipal Affairs and Housing
MNRF-Ministry of Natural Resources and Forestry
MOECC-Ministry of the Environment and Climate Change
OMAFRA-Ontario Ministry of Agriculture and Rural Affairs
PPS -Provincial Policy Statement
PSW- Provincially Significant Wetland
RFD- Regulatory Flood Datum
RFL- Regulatory Flood Level
SPP-Source Protection Plan
SWM -Stormwater Management
SWP- Source Water Protection
TSR SPR- Thames- Sydenham Region Source Protection Report

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9 APPENDICES

9.1 APPENDICES ATTACHED

1. Memorandum of Understanding on Delegated Authority (MNR and MMAH)
2. LTVCA Fee Schedule
3. Procedures for the Processing of Section 28 Applications
4. Section 28 (3) Conservation Authorities Act Hearing Guidelines, October 2005

APPENDIX 9.1.1- MEMORANDUM OF UNDERSTANDING ON DELEGATED AUTHORITY (MNR AND MMAH)

**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 9.1.2- LTVCA'S FEE SCHEDULES

The Authority's fee schedules need to be read in conjunction with the notes that follow. These fee schedules apply to all activities within the LTVCA watershed jurisdiction. All fees must be received prior to the Authority's release of written comments to an approval Authority. LTVCA fee schedules are reviewed on a regular basis to ensure that the revenue generated is comparable to the operating costs to provide the service.

LTVCA DEVELOPMENT, INTERFERENCE WITH WETLANDS & ALTERATIONS TO SHORELINES & WATERCOURSES REGULATION ONTARIO REGULATION # 152/06



APPLICATION AND APPROVAL PROCEDURES

Project Description	Fee
Fill Placement-Removal/Site Grading-Alteration/Channel Altering: under 40 cubic metres of material or less than \$2,500 estimated cost and where no site visit required.	\$300
Fill Placement-Removal/Site Grading-Alteration/Channel Altering: over 40 cubic metres of material or over \$2,500 estimated cost	\$500
Non-habitable structure (example barn, shed or garage)	\$150
Habitable structure, building or alteration (under 500 sq. ft.)	\$300
Habitable structure, building or alteration (over 500 sq. ft.)	\$400
Construction/building/alteration within flood prone area: field survey to determine flood proofing elevation/site inspection	\$500
Application to construct and/or place fill for multi-lot development (cost per lot affected by regulation)	\$300
Reconstruction as a result of hardship (same size footprint only) and construction within the 15 m Additional Allowance area	\$75
Pipeline or utility directional drill under a watercourse	\$100
Minor revisions to an approved application	\$75
Detailed hazard verification letter / written inquiry*	\$200
Fee for a local Hearing before Executive Committee	\$400
Applications where work has proceeded without authorizations.	Double fee
Municipalities / Engineering Firms	
Minor works - drain maintenance / new Engineer's report	\$100
Major works - drain maintenance / new Engineer's report	\$500

* Cost is deducted from the permit fee if an application is submitted.

Note: No fees apply to other municipal permit applications.

1. An application for permission to carry out an activity regulated by the Authority shall be made by the owner of the land, or by a person having an interest in the land for which the application is being made.
2. A fee is required at the time the application is returned to the office for review. Please consult with the table to the left for the applicable fee required for an application or consult with staff.
3. Authority staff will review the proposal in consultation with the applicant, and will provide technical recommendations to assist in the preparation of the application and what necessary technical reports may be required for it to be considered complete.
4. The General Manager / Secretary – Treasurer shall determine if the application is complete.
5. The application shall be reviewed by staff to determine if it is in compliance with the Authority's Operational Guidelines and the Regulation.
6. If there is a determination that an application cannot be supported for approval given the CA Regulations and Operational Guideline requirements, a local hearing before the Authority's Executive Committee may be requested by the applicant. Notice of the non-approval and the date and time of the hearing will be made known to the applicant and/or agent well in advance of the hearing.
7. Upon review of the application, and hearing the submission of the applicant and/or agent, the Hearing Committee shall approve or not approve the application. Upon approval or non-approval of the application, the Authority hearing Board shall give written reasons for its decision to the applicant.
8. Any applicant whose permit has not been approved may, within thirty (30) days of the receipt of the reasons for the decision, appeal to the Minister of Natural Resources & Forestry who may dismiss the appeal or grant permission.

NOTE: Issuance of approval by the LTVCA does not exempt the property owner or individual from obtaining permission from any other government agency. Please review your work as it may apply under the Federal Fisheries Act of the Department of Fisheries & Oceans (DFO). A self-assessment tool is available at: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html> The Ministry of Natural Resources & Forestry (MNR) is responsible for the Public Lands Act and the Beds of Navigable Waterways Act. Any proposed work within a water body such as a lake, river, stream or creek, including adjacent lands, falls under DFO and MNR jurisdiction and a permit may be required from their office before any work begins.

JANUARY 2015

Schedule 1

LTVCA Planning and Technical Review Fees

—
Effective January 1, 2014

Input, review, comment on Environmental Impact Study completed by consultant	\$150
Property Clearance	\$100

Note: No fees apply to applications for municipality-led initiatives (excluding major technical reviews).

APPENDIX 9.1.3- PROCEDURES FOR THE PROCESSING OF SECTION 28 APPLICATIONS



Permit Application Process

Ontario Regulation 152/06 – Lower Thames Valley Conservation Authority Regulation of Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses

Under Conservation Authorities Act, R.S.O. 1990, c. C.27

Permit Application Process:

1. Lower Thames Valley Conservation Authority (LTVCA) staff will review the proposed work in consultation with the applicant and will provide technical recommendations to assist in the preparation of the application and what necessary technical reports and/or other documentation which may be required for the application to be considered complete.
2. An application for permission to carry out an activity regulated by the LTVCA shall be made by the owner of the land, or by a person having an interest in the land with permission from the landowner for which the application is being made.
3. The permit application fee is also required for the application to be considered complete.
4. LTVCA staff shall inspect the application to determine whether or not it is considered a complete application. If it is not, the applicant shall be notified of the information that is still required.
5. Following receipt of a complete application, the application shall be reviewed by LTVCA staff to determine if it is in compliance with the LTVCA's Operation Guidelines and Ontario Regulation 152/06: Lower Thames Valley Conservation Authority: Regulation of Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses (O.Reg. 152/06).
 - a. If there is a determination that an application is in compliance with the LTVCA's Operational Guidelines and O.Reg. 152/06, it will be approved by LTVCA staff including a letter of permission which states any conditions of approval which may apply (if any).

100 Thames Street, Chatham, ON N7L2Y8 • www.ltvca.ca
Phone: 519-354-7310 • Fax: 519-352-3435 • E-mail: admin@ltvca.ca

- b. If there is a determination that an application cannot be supported for approval given the LTVCA's Operational Guidelines and Regulation requirements, the applicant will be informed by LTVCA staff why it cannot be approved and of the applicant's right to a hearing. The applicant will then have the opportunity to have a hearing before the LTVCA's Executive Committee at a later date if they request one.

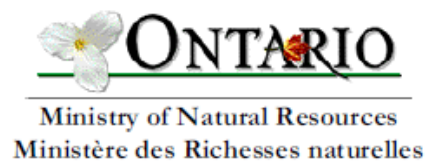
Following the hearing, the Executive Committee shall either refuse the permission or grant the permission, with or without conditions. The Executive Committee shall provide written notice to the applicant of its decision and reasons for the decision.

Any applicant whose permit has not been approved by the Executive Committee may, within 30 days of receipt of the reasons for the decision, appeal to the Minister of Natural Resources and Forestry who may refuse the permission or grant permission, with or without conditions.

Notes:

Issuance of approval by the LTVCA does not exempt the property owner or individual from obtaining permission from any other government agency or the landowner. The applicant also has a right to a hearing if they disagree with any conditions stated on their application's approval by LTVCA staff.

SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005



SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005

ORIGINAL SIGNED

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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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 (c) 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.

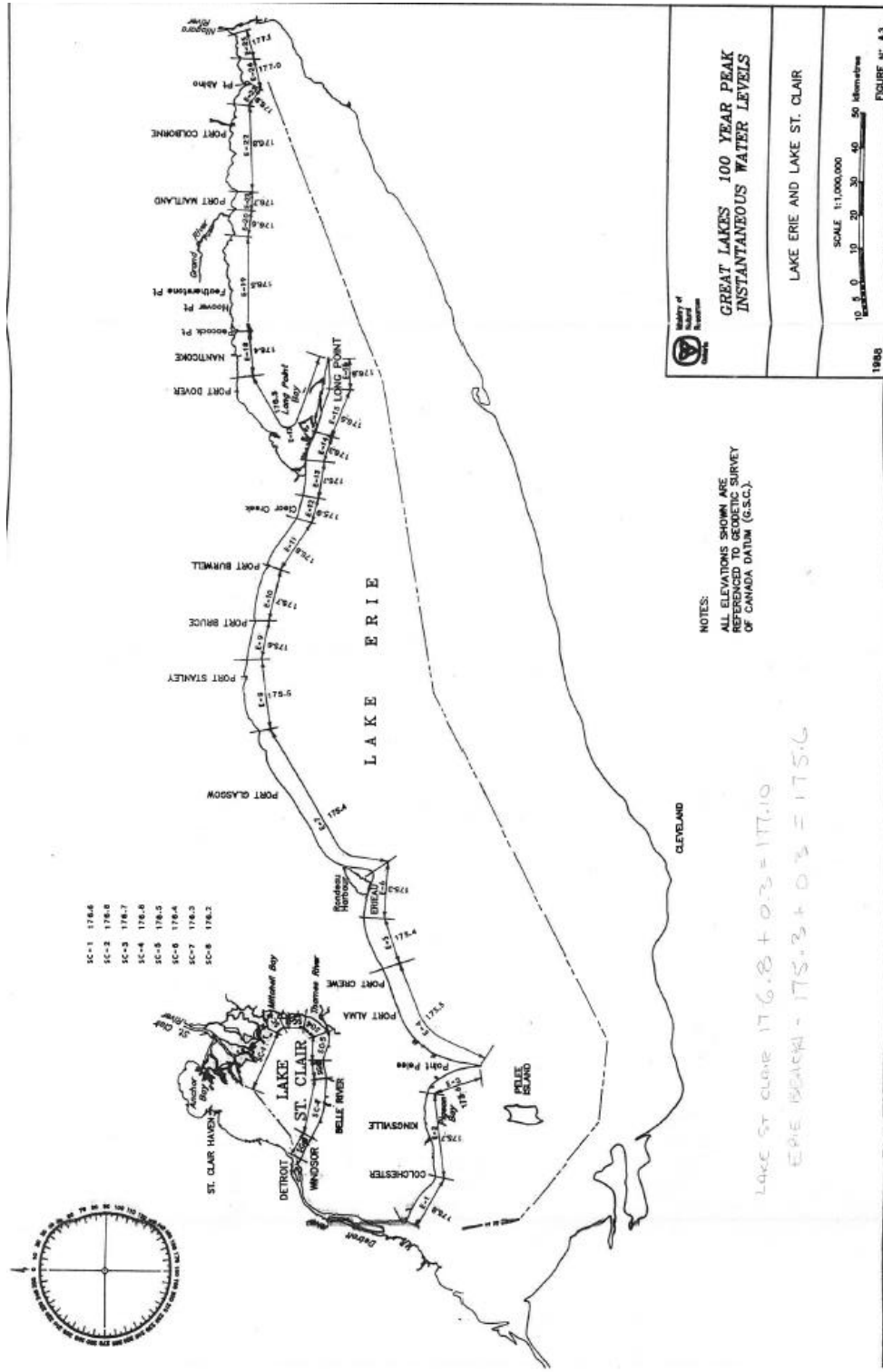
Yours truly,

Chief Administrative Officer/Secretary Treasurer

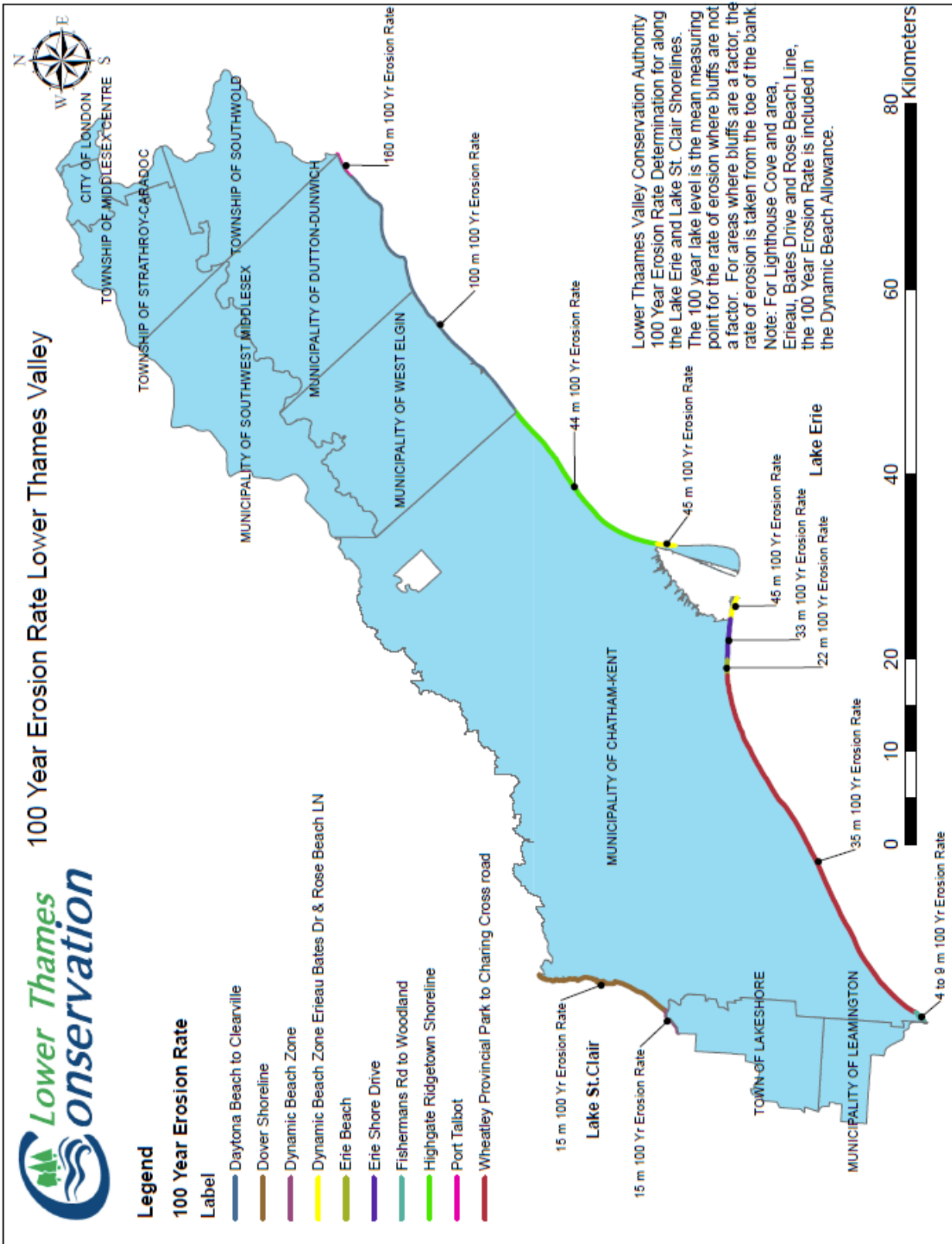
Enclosure

9.2 MAPPING

9.2.1 100 Year Flood Levels



9.2.2 100 Year Erosion Rate



9.3 LIST OF KEY REFERENCE DOCUMENTS/ LINKS

1. Provincial Legislation and Regulations - <https://www.ontario.ca/laws>
2. Federal Legislation and Regulations - <http://laws.justice.gc.ca/eng/>
3. Conservation Authorities Act- <https://www.ontario.ca/laws/statute/90c27>
4. Conservation Authorities Generic Regulation-
<http://www.e-laws.gov.on.ca/DSLaws/Source/Reqs/English/2004/R04097e.htm>
5. Provincial Policy Statement - <http://www.mah.gov.on.ca/AssetFactory.aspx?did=10463>
6. MMAH Land Use Planning Tools - <http://www.mah.gov.on.ca/Page186.aspx>
7. O.Reg 152/06- <https://www.ontario.ca/laws/regulation/060152>
8. Ontario Wetland Evaluation System, 3RDEdition (MNR, 2014)
9. Natural Heritage Reference Manual (MNR, 2005)
10. Natural Hazards Technical Manual (MNR, 2002)
11. Significant Wildlife Habitat Technical Guide (MNR, 2000)