Class Environmental Assessment for Remedial Flood and Erosion Control Projects

Conservation Ontario

January 2002
Amended June 2013

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PREFACE

The purpose of this *Class Environmental Assessment* (Class EA) document is to fulfill the requirements of the *Environmental Assessment Act (EAA)* to specify a planning and design process which ensures that *environmental effect*s are considered when undertaking remedial *flood* and *erosion* control projects. It sets out procedures and environmental planning principles to be followed to plan, design, evaluate, implement, and monitor a project within this class of undertakings.

In December 1985, the Ministry of the Environment (MOE) approved a *Class Environmental Assessment for Water Management Structures* prepared by the Association of Conservation Authorities of Ontario (ACAO) on behalf of its members. It was approved for a five year period, ending December 1990. This approval expired and in 1993 a revised document entitled "Class Environmental Assessment for Remedial Flood and Erosion Control Projects" was approved for a five year period.

An extension of the approval was granted to February 3, 2000, and a further extension was requested in July 1999. On May 31, 2000, the Minister of the Environment, with the concurrence of Cabinet, approved the continued use of the *Class EA for Remedial Flood and Erosion Control Projects* (ACAO, 1993) until it was reviewed and approved and subject to the submission of this Class EA before August 4, 2001.

In preparing the Class EA, Conservation Ontario (now CO previously known as ACAO) endeavoured to meet all of the requirements of the *EAA* and to address all deficiencies which were found in the previous document and identified in the approved Terms of Reference. The revisions to the Class EA addressed the issues identified in the *Proposed Terms of Reference* (CO, May 19, 2000; Approved September 1, 2000) which served as a benchmark for review of the 1993 Class EA and this Class EA as submitted to the MOE for approval.

CO 's Five Year Review Report of the Class EA was submitted to MOE on January 31, 2007. The Five Year Review Report identified minor *amendment*s to the Class EA to ensure that it remains current and relevant.

MOE's review of the Five Year Review Report was received by CO on June 1, 2007. MOE circulated the Five Year Review Report to those agencies that may be impacted by the proposed *amendment*s; the review included comments submitted from MOE staff, the Canadian Environmental Assessment Agency, and the Ontario Secretariat for Aboriginal Affairs (which has since become the Ministry of Aboriginal Affairs). The review stated that '*following Conservation Ontario's response to this letter, a Notice of Proposed amendment will be posted on the Environmental Bill of Rights for a period of 30 days. Based upon the comments received, the Minister of the Environment may approve, deny, or revise the proposed amendments to the Class EA document, and may do so in consultation with Conservation Ontario.'*

MOE was advised that the additional *amendment*s proposed by Ministry staff, the Canadian Environmental Assessment Agency and the Ontario Secretariat for Aboriginal Affairs was supported by CO. Because the *amendment*s proposed were of a relatively minor nature, MOE did not proceed with posting them for *public* comment on the Environmental Registry. Rather, they were posted on the Ministry's "EA Activities" website for *public* review in June 2008. Only minor comments were received in response to the posting.

The Minister of the Environment approved the *amendment*s to CO's Class EA in July 2009.

The document has been prepared for all Conservation Authorities in the Province of Ontario within the meaning of the *Conservation Authorities Act*, including the current 36 Conservation Authorities:

Ausable Bayfield
Cataraqui Region
Catfish Creek
Central Lake Ontario
Conservation Halton
Credit Valley
Crowe Valley
Essex Region
Ganaraska Region
Grand River
Grey Sauble
Hamilton Region
Kawartha Region
Kettle Creek
Lake Simcoe Region
Lakehead Region
Lower Thames Valley
Long Point Region
Lower Trent
Maitland Valley
Mattagami Region
Mississippi Valley
Niagara Peninsula
Nickel District
North Bay - Mattawa
Nottawasaga Valley
Otonabee Region
Quinte Conservation
Raisin Region
Rideau Valley
St. Clair Region
Saugeen Valley
Sault Ste. Marie
South Nation
Toronto and Region
Upper Thames River

Approval of this Class EA will allow Conservation Authorities to undertake remedial *flood* and *erosion* control projects without applying for formal approval under the *EAA*, on the condition that the planning and design process, as provided in this document, is followed and that all other necessary federal and provincial approvals are obtained. This therefore becomes a self assessment process, involving *public* and agency *consultation*, which Conservation Authorities will use when undertaking remedial *flood* and *erosion* control projects.

Part I: CLASS ENVIRONMENTAL ASSESSMENT

1.0 CONSERVATION AUTHORITY PLANNING CONTEXT

This section describes the overall *watershed planning* and management activities of Conservation Authorities. The aim is to clarify the relationship between the broader, on-going planning process, routinely carried out by a Conservation Authority, and the remedial *flood* and *erosion* control planning process, which is the subject of this Class EA.

The *Conservation Authorities Act*, passed in 1946, provided the means by which the Province and the municipalities of Ontario could join together to form a Conservation Authority within a specified area to undertake programs for natural resource management. There are now 36 Conservation Authorities that have formed under the *Conservation Authorities Act.* Section 1.1 describes more fully the Conservation Authorities' legislative mandate. Three fundamental strengths of a Conservation Authority are recognized in the legislation:

i) local initiative and involvement;
ii) the *watershed* as a management unit; and
iii) a provincial/municipal partnership and *commitment* to resource management.

Conservation Authorities have been formed in response to interest expressed by the residents of a particular *jurisdiction.* This emphasis on "local initiative and involvement" is reflected in the administrative framework of Authorities, by the election and appointment of municipal representatives to be Members of the Full Conservation Authority Committee and/or Advisory Committees. These committees have the decision-making powers of the Conservation Authority.

Conservation Authorities, for the most part, are established on the basis of *watershed* boundaries, as opposed to political boundaries, and their *jurisdiction* may include one or more *watershed*s. Organization on a *watershed* basis enables the Conservation Authorities to take into account the natural unity of the *watershed* and the interdependencies between land and water systems. To clearly identify and carry out their resource management interests, Conservation Authorities prepare *watershed* plans, policies and programs. These are described in Section 1.2.

As a "provincial/municipal partnership", Conservation Authority funding and program priorities are generated at both the local and provincial level. Section 1.3 discusses the various funding arrangements of Conservation Authorities.

1.1 Legislative Mandate

The *Conservation Authorities Act* (R.S.O. 1990) provides the basic mechanisms for establishing and administering a Conservation Authority and is administered by the Ministry of Natural Resources. Section 20 of the *Act* sets out the mandate of a Conservation Authority:

"The objects of an authority are to establish and undertake, in the area over which it has *jurisdiction*, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals" (R.S.O. 1990, C. 27, s. 20).

As part of this broad mandate, Conservation Authorities are the agency considered to have prime responsibility for water management, in terms of water quantity and related hazards. To carry out their water management responsibility, Conservation Authorities have two types of powers - administrative and regulatory.

1. Administrative

Subsection 21(1) of the *Conservation Authorities Act*, R.S.O. 1990 sets out the administrative powers of a Conservation Authority:

"(a) to study and investigate the *watershed* and to determine a program whereby the natural resources of the *watershed* may be conserved, restored, developed and managed;

(b) for any purpose necessary to any project under consideration or undertaken by the authority, to enter into and upon any land and survey and take levels of it and make such borings or sink such trial pits as the authority considers necessary;

(c) to acquire by purchase, lease or otherwise and to expropriate any land that it may require, and, subject to subsection (2), to sell, lease or otherwise dispose of land so acquired;

(d) despite subsection (2) to lease for a term of one year or less, land acquired by the authority;

(e) to purchase or acquire any personal property that it may require and sell or otherwise deal therewith;

(f) to enter into such agreements for the purchase of materials, employment of labour and such other purposes as may be necessary for the due carrying out of any project;

(g) to enter into agreements with owners of private lands to facilitate the due carrying out of any project;

(h) to determine the proportion of the total benefit afforded to all the participating municipalities that is afforded to each of them;

(i) to erect works and structures and create *reservoirs* by the construction of dams or otherwise;

(j) to control the flow of surface waters in order to prevent *floods* or pollution or to reduce the adverse effects thereof;

(k) to alter the course of any river, canal, brook, stream or watercourse, and divert or alter, as well temporarily as permanently, the course of any river, stream, road, street or way, or raise or sink its level in order to carry it over or under, on the level of or by the side of any work built or to be built by the authority, and to divert or alter the position of any water-pipe, gas-pipe, sewer, drain or any telegraph, telephone or electric wire or pole;

(l) to use lands that are owned or controlled by the authority for such purposes, not inconsistent with its objects, as it considers proper;

(m) to use lands owned or controlled by the authority for park or other recreational purposes, and to erect, or permit to be erected, buildings, booths, and facilities for such purposes and to make charges for admission thereto and the use thereof;

(m.1) To charge fees for services approved by the Minister;

(n) to collaborate and enter into agreements with ministries and agencies of government, municipal councils and local boards and other organizations;

(o) to plant and produce trees on Crown Lands with the consent of the Minister, and on other lands with the consent of the owner, for any purpose;

(p) to cause research to be done;

(q) generally to do all such acts as are necessary for the due carrying out of any project."

2. Regulatory

Under subsection 28(1) of the *Conservation Authorities Act,* Conservation Authorities may make *regulations*, subject to the approval of the Minister of Natural Resources, including:

(b) prohibiting or regulating or requiring the permission of the authority for the straightening, changing, diverting or interfering in any way with the existing *channel* of a river, creek, stream or watercourse, or for changing or interfering in any way with a *wetland*;

(c) prohibiting , regulating or requiring the permission of the authority for the development if, in the

opinion of the authority the control of flooding, *erosion*, dynamic beaches or pollution or the conservation of land may be affected by the development.

Commonly referred to as the Development, Interference and Alteration Regulations for all Conservation Authorities (Ontario Regulations 42/06 and 146/06 to 182/06), consistent with Ontario Regulation 97/04 of the *Conservation Authorities Act*, these *regulations* control activities in river and stream valleys, waterfronts, and *wetlands*. These *regulations* do not control land use, as this is the responsibility of the municipalities and planning boards of Ontario. Conservation Authorities examine the technical feasibility of proposed activities from a water management perspective, while the municipal land use planning process examines proposals from the point of view of relevant social, economic, and environmental matters.

1.2 Watershed Plans, Strategies, Policies and Programs

To carry out their mandate under the *Conservation Authorities Act*, Conservation Authorities have devoted considerable effort to identifying the goals and objectives that guide their action and the means of achieving these by preparing *watershed* plans, strategies, policies and programs.

1.2.1 Watershed Plans and Strategies

To fulfill its responsibility under the *Conservation Authorities Act*, each Conservation Authority has prepared a *watershed* plan for its *jurisdiction*. The *watershed* plan contains an inventory of the *watershed jurisdiction* and documents the goals and objectives of the Conservation Authority in attaining the wise use and management of these resources. Effective implementation of the *watershed* plan requires the *commitment* of the local municipalities and other appropriate agencies.

Watershed management planning is an evolving and iterative process to accommodate for changing conditions, both natural and man-made, within the *watershed*.

Some Conservation Authorities have entered into a process of preparing strategic plans. These are developed, using an open *public* process, to identify the direction to be taken to protect and enhance *watershed* health. *Watershed* and *subwatershed planning* have emerged as a key recommendation of the strategies that have been completed.

Watershed planning is a process whereby the important physical and biological relationships are considered in conjunction with existing and changing land use, to determine what is necessary to protect or enhance the existing or desired ecology within the *watershed*. The plan reflects local, regional, provincial and federal interests as well as the environmental, social and economic needs of the municipality and the *public*.

Subwatershed planning is generally applied in areas that are experiencing significant development pressure. *Subwatershed* plans result in a much more detailed analysis of issues. The *subwatershed* plan could contain recommendations concerning stormwater management facilities, stream corridor rehabilitation, natural areas and linkage protection etc. and as it seems to be triggered by development, the scale of the planning area would be confined to much smaller units such as a catchment basin for a larger *watershed*.

Conservation Authorities who have *jurisdiction* on the Great Lakes have also prepared Shoreline Management Plans, which are specific planning documents dealing with the shoreline area. Similar to a *watershed* plan, these document the goals and objectives of the Conservation Authority in attaining the wise use and management of these shoreline resources.

The *watershed* plan and the shoreline management plan or *watershed* strategy (where applicable) establish each of the 36 Conservation Authorities approach to the implementation of its resource management mandate.

Upfront *public* input into the planning and decision making process for formulating these plans is both desirable and necessary. The *public* is involved throughout the plan's formulation and plays an important decision making role. The result is a community based vision of what the *watershed* or shoreline should look like in the future and identifies targets of how to achieve this vision.

It is possible that these broad planning processes may identify a situation potentially requiring remedial *flood* or *erosion* control or other environmental enhancement measures. The process as outlined in Section 3.1 of this document must be followed to confirm that the action needed is a remedial *flood* and/or *erosion* control measure as described in the definition of the *undertakings* in Section 2.3. With this confirmation, the Class EA process is initiated. Since the situation was identified through the broad *watershed*/sub*watershed* or shoreline planning processes then current Conservation Authority staff and *public* knowledge (assuming that the Class EA process is initiated within a sufficiently short timeframe) should facilitate the Class EA process.

1.2.2 Policies

To assist in achieving its goals and objectives, each Conservation Authority formulates a set of policies, tailored to the local physical, economic, and social conditions of the Conservation Authority's *jurisdiction.* As indicated in Table 1.0, there are three general policy areas under which programs are developed: water management policies; water and land management policies, and "other" (relating primarily to recreation and education).

1.2.3 Programs

Programs in the water management policy category have both preventative and protective means by which to achieve their goals. The preventative components of the Flood Control and Erosion Control Programs receive more emphasis, as they are intended to ensure that new development will not be subject to *flood* and *erosion* hazards and that new development will not impose *flood* and *erosion* hazards on other parts of the *watershed* (i.e. upstream or downstream). Conservation Authorities use a range of methods to carry out the preventative aspects of these programs, including: a) Development, Interference and Alteration Regulations for all Conservation Authorities (Ontario Regulations 42/06 and 146/06 to 182/06, consistent with Ontario Regulation 97/04 of the *Conservation Authorities Act),* which are administered from the perspective of water management and related hazards; b) Conservation Authority participation in the municipal plan input and review process as a commenting agency pursuant to applications submitted for approval under the *Planning Act;* c) Land acquisition programs; d) Flood Forecasting/Warning programs; and e) regular on-site inspection programs for structural integrity.

The protective components of the Flood Control and Erosion Control programs address existing problems. Where flooding or *erosion* poses a *public* safety *risk* to homes or private property, remedial works may be proposed.

Remedial Flood and Erosion Control Projects refer to those projects undertaken by Conservation Authorities, which are required to protect human life and property, in previously developed areas, from an impending *flood* or *erosion* problem.

Conservation Services and *Wetland* Management Programs that support the Water and Land Management Policy Area primarily carry out the Conservation Authorities' land management interests. However, these activities also have direct benefits to the Conservation Authorities' role in water management. Conservation Services projects, such as agricultural soil *conservation* measures and streambank *sediment* control, limit the *sediment* loadings in watercourses, resulting in a potential for improved water quality and aquatic *habitat.* A reduction in *sediment* loading to a watercourse also represents a lower potential for flooding, due to the reduced rate of downstream *sedimentation* and associated reduction in the *channel*'s *hydraulic* capacity. Other Conservation Services projects involving tree planting and *wetland* management, benefit terrestrial and

aquatic *habitat*, as well as provide for on site *flood* storage. Projects under the conservation services and *wetland* management programs are often planned or designed with significant *public\agency* involvement and follow an environmental assessment type planning approach.

Through their recreation and education programs, Conservation Authorities attempt to increase *public* awareness of the benefits of conservation and the hazards associated with flooding and *erosion*.

1.2.4 Status under the Environmental Assessment Act

A Conservation Authority is defined as a *public* body in section 3 of Regulation 334/90 under the *EAA* (R.S.O. 1990), and as such, its activities must be planned in accordance with the *EAA*. Table 1.0 indicates the status of Conservation Authority activities under this *Act*. It can be seen that many activities have a regulatory exemption from the *Act*, while others must conform to the requirements of either an Individual or Class EA. Remedial *flood* and *erosion* control projects are the subject of this Class EA planning document.

The use of this Class EA is restricted to those undertakings which are remedial in nature and associated with the Water Management Policy in the Flood and Erosion Control Program Areas.

TABLE 1
CONSERVATION AUTHORITY POLICY CATEGORIES

I Water Management Policies			
PROGRAM	**PROGRAM AREAS**	**EXAMPLE CATEGORIES**	**STATUS UNDER ENVIRONMENTAL ASSESSMENT ACT****
Flood Control	**Preventative**	Plan Input and Review	Exempt
		Conservation Authority Regulations	Exempt
		Stormwater Management Review	Exempt
		Land Acquisition	Exempt
		Flood Forecasting	Exempt
		Dam Operation & Maintenance*	Exempt
	Protective	**Remedial Flood Control Projects**	**Class EA/Individual**
		Floodproofing	Exempt
Erosion Control	Preventative	Plan Input and Review	Exempt
		Conservation Authority Regulations	Exempt
		Stormwater Management Review	Exempt
		Land Acquisition	Exempt
	Protective	**Remedial Erosion Control Projects**	**Class EA/Individual**
Water Quality	Water Quality Monitoring	Monitoring	Exempt
	Low Flow Augmentation	Research	Exempt
		Dam Operation and Maintenance*	Exempt
II Water & Land Management Policies			
PROGRAM	**PROGRAM AREAS**	**EXAMPLE ACTIVITIES**	**STATUS UNDER ENVIRONMENTAL ASSESSMENT ACT****

Conservation Services	Rural Land Management	Soil Conservation	Exempt where all related projects cost less than $50,000 and are under an agreement with a private landowner
	Forest Management	Reforestation/Woodlot Management	Exempt
	Fish and Wildlife Management	Habitat Management	Exempt
Wetland Management	Flood Storage	Plan Input and Review	Exempt
	Low Flow Augmentation	Land Acquisition	Exempt
	Areas of Ecological Significance	Dam Operation and Maintenance*	Exempt
		Research	Exempt
		Conservation Authority Regulations	Exempt
		Plan Input and Review	Exempt

III Other Policy Areas

PROGRAM	PROGRAM AREAS	EXAMPLE ACTIVITIES	STATUS UNDER ENVIRONMENTAL ASSESSMENT ACT**
Recreation	Niagara Escarpment Parks	Conservation Areas & Campground	Exempt where projects cost less than $1,000,000/Individual
	Regionally Significant Parks	Development	
	Heritage Conservation		
Conservation Education	Community Relations	Education & Interpretive Centres	Exempt
		Public Information	Exempt

* See also Section 8 of this document for further details concerning these activities

** Status as determined in Ontario Regulation 334/90 under the *EAA*. All staff must refer to Regulation 334/90 for detailed definitions to confirm exemption eligibility.

1.2.5 Status Under the Canadian Environmental Assessment Act (CEAA)

For projects that may be subject to the *Canadian Environmental Assessment Act (CEAA)*, the *proponent* will notify the Ontario Regional Office of the Canadian Environmental Assessment Agency.

Some of Conservation Authority's projects may also be subject to the requirements of *CEAA*. If a Class EA project may potentially trigger *CEAA* requirements, federal agencies will be notified and involved early in the Class EA planning process in order to determine whether or how the federal-provincial environmental assessment process may be coordinated.

To determine whether your project is subject to the *CEAA* and to obtain further details on the requirements and implementation of *CEAA*, please contact the following:

Canadian Environmental Assessment Agency
Ontario Region Office
55 St. Clair Avenue East
9th Floor, Room 907
Toronto, Ontario
M4T 1M2
Phone: 416-952-1576
Fax: 416-952-1573
E-mail: ontario@ceaa.gc.ca

1.3 Funding and Approval Mechanisms

Funding for Conservation Authorities, as outlined in the *Conservation Authorities Act*, is based upon municipal and provincial funding arrangements and is secured with project approval. There are three basic sources of remedial project funding, including:

- **Provincial Ministry of Natural Resources** Funding comes from the province in the form of grants for which rates vary regionally. Projects are prioritized on a province wide basis for this funding. In this regard, requests for funding are submitted to the Ministry of Natural Resources and are ranked based upon the specific benefits of the *remedial project.* Not all requests will receive funding in any given year. Where the project involves money granted by the Minister, prior to receiving this funding, technical approval of the project must be received from the Minister of Natural Resources.

- **Municipal Levies** The balance of the funding is generally raised from the member municipalities as a levy. Apportionment of the levy among municipalities is based upon the proportional benefit received. The benefiting municpality(ies) must obtain approval for the *remedial project from its (their) Council(s) prior to providing the Conservation Authority with a Special Benefiting Levy.*

- **Other Contributions** *Remedial projects* are in most cases, undertaken by the Conservation Authority in a partnership with the landowner, therefore, Conservation Authorities have arrangements whereby private landowners or local groups may contribute portions of a project's cost. As well, partial funding may be obtained through other federal or provincial government programs for specific aspects of the undertaking (e.g. fisheries improvements).

These funding and approval mechanisms reflect the provincial/municipal partnership that generally must exist for these projects to be undertaken. These approvals would follow the Class EA approval of the undertaking.

2.0 APPLICATION OF THE CLASS ENVIRONMENTAL ASSESSMENT TO REMEDIAL FLOOD AND EROSION CONTROL PROJECTS

This section will discuss the need for remedial *flood* and *erosion* control projects and will provide a justification for applying the Class EA approach to such projects. In addition, this section will provide a definition of the kinds of projects that are included in this Class EA.

2.1 Need for Remedial Flood and Erosion Control Projects

Under natural conditions, all lands along watercourses and shorelines are subject to periodic flooding. Bank/bluff instability and *erosion* (collectively referred to as "*erosion*" problems in this document) along watercourses and shorelines also occur due to natural causes. Land use practices have tended to aggravate *flood* and *erosion* problems. These practices include deforestation, agricultural land clearing, urbanization, and the filling and draining of *wetland*s. These activities have acted to significantly alter the natural hydrological regime of watercourses. Increase in total volume of *surface runoff*, in combination with increased flow velocities and *flood* frequency, in turn have increased the energy available for river valley *erosion.*

The Provincial Government, Ontario's municipalities, and Conservation Authorities have recognized that these natural processes can pose hazards to *public* safety and have formulated policies and *regulations* pertaining to *flood plain* management and to ensure that land use practices throughout a *watershed* have regard for water management concerns. To the extent possible under the Conservation Authority mandate, Authorities continue to regulate new development in *flood* plains and to have *flood* plains recognized in all components of the municipal land use planning process so as to eliminate the need for future remedial *flood* and *erosion* control projects.

Prior to Euro-Canadian settlement, Aboriginal peoples established settlements and/or seasonal camps along watercourses and shorelines. These *flood* plain areas offered many advantages. They were in close proximity to sources of food, drinking water, and transportation routes. Early Euro-Canadian settlers favoured these areas for many of the same reasons and because these regions provided a ready source of power. Since these historic beginnings, many towns and cities in Ontario have been established, totally, or in part, in river valley *flood* plains or along lake shorelines.
Flooding and bank instability/*erosion* can result in the following critical problems:

- *risk* to human life
- property damage
- damage or disruption of various corridors including roads, highways, bridges, pipelines, storm and sanitary sewers, telephone and hydro lines, etc.
- damage to surface water intakes and quality of water received there

The potential *risk* to *public* safety associated with *flood* and bank instability/*erosion* is a fundamental concern of Conservation Authorities. Furthermore, Conservation Authorities recognize that flooding and *erosion* can result in the following ancillary problems:

- *sedimentation* of watercourses and coastal *wetland* areas,
- degradation of aquatic *habitats,* such as fish spawning grounds
- loss of fertile soil, and the destruction of terrestrial vegetation and associated *habitat* resources
- loss of natural shoreline protective features such as *beaches*, *berms* and *dunes*
- imbalances in natural processes which provide aquatic and terrestrial *habitat*
- *personal* hardship and severe social disruption
- impacts to or loss of cultural heritage resources, including *built heritage resource*s (bridges, mills and houses), cultural heritage landscapes and *archaeological resources*

Preventative aspects of Conservation Authorities' *flood* and *erosion* control programs serve to ensure that new development will be safe from *flood* and *erosion* hazards. However, given the reality of historical development in close proximity to watercourses or shorelines, preventative aspects of the Conservation Authorities' *flood* and *erosion* control programs, such as Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations, planning controls, reforestation, or land acquisition may not be adequate or viable to provide for *public* safety. Therefore, where existing development is at *risk*, some form of remedial project may be necessary.

2.2 Justification of the Class Environmental Assessment Approach

Common elements are recognized in addressing *flood* and *erosion* problems, not only within a Conservation Authority, but from one Conservation Authority to another. Therefore, one coordinated approach to environmental assessment by all 36 Conservation Authorities is appropriate.

The Class EA approach is considered a suitable means for the planning of remedial *flood* and *erosion* control projects, because such projects:

- have a common process of planning, design, approval, construction, operation and *monitoring*; and,
- have a generally predictable range of effects, which, though significant enough to require environmental assessment, are generally responsive to standard mitigation measures.

Fifteen years of experience have demonstrated that using the Class EA approach for dealing with *flood* and *erosion* control projects is an effective way of complying with the *EAA* requirements. It is the responsibility of the Conservation Authority to ensure that the planning process as set out in the Class EA document is undertaken. The projects that will be assessed are those with predictable *environmental effects* and proposed mitigation measures will be identified and documented. The Class EA process provides a consistent, streamlined, easily understood process for planning and implementing *flood* and *erosion* control projects. The process that is implemented through approval of the Class EA ensures that the intent of the *EAA* is met by providing for the identification of issues and concerns, and the preferred means of addressing them, with due regard to environmental management, protection, and mitigation measures. The process also provides the flexibility to be tailored to the activity, taking into account the environmental setting, *public* interest, and unique situation requirements.

2.3 Definition of the Undertakings Within the Class

Remedial Flood and Erosion Control Projects refer to those projects undertaken by Conservation Authorities, which are required to protect human life and property, in previously developed areas, from an impending *flood* or *erosion* problem. Such projects do not include works which facilitate or anticipate development. Major *flood* and *erosion* control undertakings which do not suit this definition, such as multipurpose projects, lie outside the limits of this Class and require an *Individual Environmental Assessment.*

The undertakings to which this Class EA applies have been grouped within four problem situations. These problem situations are: *riverine* flooding, *riverine* and valley *slope erosion*, shoreline flooding, and shoreline *erosion.* Several types of solutions to these problems are non structural in nature and/or do not require capital works. Such solutions are not subject to this Class EA. Table 2.0 provides a summary of the types of solutions to these problem situations which are the subject of this Class EA. These solutions are structural in nature and/or require capital works. Table 2.0 is not exhaustive as it cannot anticipate new, innovative approaches of addressing these four problem situations. A more detailed description of each of the four problem situations and the *alternative methods* of addressing them can be found in Part II of this Class EA.

- **Riverine Flooding**
  Two main causes of flooding in the *riverine* system are an increase in water level from a *storm event* or rapid snow melt, and a result of the formation of ice jams, *frazil ice*, or other debris in watercourses. *Alternative remedial measures* to protect areas from flooding include preventing the entry of floodwater to a specific site, or altering the flows through the *channel* during *flood* events. Flows can be altered by increasing the *hydraulic* capacity of the watercourse, diverting water from *flood* vulnerable areas and increasing upstream storage.

- **Riverine and Valley Slope Erosion**
  Riverine *erosion* is the result of fluvial processes which are determined by the watercourses flow and the *sediment* mixture of the watercourses bed and banks. Bluff/bank instability problems can also occur along river or stream banks as a result of *weathering*, internal drainage problems, or the removal of stabilizing vegetation and soil material from the surface of the *slope*. The soil type, moisture content, and *slope* geometry are important factors in determining the strength of the *slope* materials and ultimately the *slope* stability.

  Alternative remedial measures to address *channel*/riverbank *erosion* include reducing the erosive energy of the *channel* flows at the toe of the *slope* or protecting the toe or *channel* from this erosive energy. Stabilization of the face of the *slope* can be achieved through the use of drainage or grading improvements.

- **Shoreline Flooding**
  Shoreline flooding varies from a river system because an additional component, that of wave action, must be considered in addition to increases in water levels. The *still water level* plus the wave action (wave uprush/runup, overtopping, ice accumulation) result in a final storm elevation.

  Alternative remedial measures suitable to protect from shoreline flooding include preventing entry of floodwaters at a particular site, or reducing the wave uprush elevations by reducing wave energy offshore.

- **Shoreline Erosion**
  The *erosion* processes along the shoreline differ from those in a *riverine* system. Erosion is predominantly brought about by waves, currents, *shore geomorphology*, ice and changes in water levels. Shoreline *erosion* can result in deterioration of bluffs/banks, *dune*s, *berm*s and *beach*es. The eroded *sediment* is transported along the shoreline as *littoral drift*. Protection of natural features such as *beach*es, *berm*s and *dune*s are necessary in order to stop *erosion* of the backshore and coast area(bluff/banks).

  Protection or creation of coastal *wetland*s along the shoreline will enhance the natural *ecosystem* and also provide a buffer against wave action by attenuating wave energy.

  The type of shoreline, cohesive (clay, silt, glacial till) or non-cohesive (sandy), is very important in determining the type of *erosion* processes occurring along the shoreline. The bluff/bank instability problems along the shorelines are generally the same as along riverbanks. *Alternative remedial measures* suitable to address shoreline *erosion* include reducing wave energy and enhancing natural processes, protecting from wave energy or stabilizing the *slope* through drainage or grading improvements.

It can be seen from Tables 1 and 2 that this class of undertakings includes *flood* and *erosion* control projects that are of a limited scale and purpose. Furthermore, it should be noted that major *flood* and *erosion* control undertakings which do not suit this definition, such as multipurpose projects, lie outside the limits of this class. The impacts of such undertakings and the extent of their effects are not predictable without detailed study. Accordingly, they must be subjected to an *Individual Environmental Assessment*, rather than this class approach.

TABLE 2
SUMMARY OF CLASS UNDERTAKINGS*

PROBLEM SITUATIONS	ALTERNATIVE REMEDIAL MEASURES	EXAMPLES OF ALTERNATIVE METHODS/DESIGNS
Riverine Flooding	Prevent Entry of Flood Water	Berming
	Increase Hydraulic Capacity of Waterway	Bridge and Culvert Alterations Bank Regrading Increase Bank Height *Revetments* *Channel* Realignment Dredging Dam Decommissioning
	Modify River Ice Formation and/or Break-up Processes	*Ice Control Booms* Bypass *Channel*
	Divert Water From Area	Bridge and Culvert Alterations *Dry Dams*
	Increase Upstream Storage	*Weirs*
Riverine and Valley Slope Erosion	Reduce Erosive Energy of *Channel* Flows	Instream Obstacles Decrease *Gradient* *Drop Structures* *Rock Ramps*
	Protect From Erosive Energy Of *Channel* Flows	Soil *Bioengineering* Deflectors Revetments *Channel* Realignments
	Stabilize Bank or Slope	*Soil Bioengineering* Improve Internal Drainage Improve
Shoreline Flooding	Prevent Entry of Floodwaters	*Artificial Nourishment* *Dikes Seawalls* Revetments
	Reduce Wave Energy	*Artificial Nourishment* *Offshore Breakwaters* (including Low Crested *Breakwater*s, and *Islands*)

PROBLEM SITUATIONS	ALTERNATIVE REMEDIAL MEASURES	EXAMPLES OF ALTERNATIVE METHODS/DESIGNS
Shoreline Erosion	Reduce Wave Energy and Enhance Natural Processes	*Artificial Nourishment* *Headland Beach* System *Offshore Breakwaters* (including *Offshore Low Crested Breakwaters*) *Groynes* Coastal *Wetlands*
	Protect From Wave Energy	Shore Connected *Breakwaters* *Revetments* *Seawalls* Jetty *Islands*
	Stabilize Bank or Slope	*Soil Bioengineering* Improve Internal Drainage Improve Surface Drainage Regrading of the Slope

* The alternative ways of addressing each of the four problem situations outlined in this table should be used as a "starting point" only. A full range of *alternatives* should be considered, including both traditional and innovative measures, in accordance with the Class EA planning process.

2.4 Proponents of the Class Environmental Assessment

The *proponents* of this Class EA are Conservation Authorities within the meaning of the *Conservation Authorities Act*, and including those listed in the Preface.

A Conservation Authority may enter into an agreement with any party to plan, design and implement an undertaking or undertakings subject to this Class EA. In such cases, each/all of the parties to the agreement will be *proponents* under this Class EA and will be subject to its requirements but the Conservation Authority is ultimately responsible for ensuring the requirements of this Class EA are met. Additionally, the subject undertaking(s) of such an agreement or agreements will be for the purposes of remediating a *flood* or *erosion* control problem and not for the purposes of anticipating or facilitating development.

Where there is a partnership project that meets the definition of an undertaking under this Class EA, and any of the partners' approved Class EAs, such as the "Municipal Class Environmental Assessment" (Municipal Engineers Association, June 2000 - as amended), then the partners will decide which Class EA will be applied. If the decision is to use this Class EA, then the Conservation Authority shall provide written justification for making that decision in the Notice of Filing. If the decision is to use the Municipal Class Environmental Assessment, the *proponent* Conservation Authority would have to be a co-*proponent* under that Class EA.

3.0 PLANNING AND DESIGN PROCESS

The previous sections outlined the relationship of remedial *flood* and *erosion* control projects to the overall planning and program context of Conservation Authorities. This section describes how potential projects are identified, and the specific planning process which is to be followed once a situation potentially requiring

remedial *flood* or *erosion* control has been identified. This section begins by outlining the Conservation Authority planning process. It explains how the Class EA process is initiated and documents the environmental planning and design principles that are to be employed in this process. This is followed by a step by step description of the Class EA planning process.

This planning process has been outlined in flowchart form in Figure 1A, 1B and 1C. These figures should be referred to throughout this section. Section 4.0 of this Class EA, which details opportunities and provisions for *public* involvement in the planning and design process must be consulted while reading this section.

3.1 Conservation Authority Planning Process

Conservation Authorities, in the normal course of their operations, may identify problems relating to *flood* and *erosion* control, including dams that require decommissioning. The following sections outline the means by which this occurs and describes the process which leads up to the initiation of the Class EA process.

3.1.1 Problem Identification

Conservation Authorities are normally alerted to existing or potential flooding or *erosion* problems by the general *public,* landowners, municipalities, or other agencies as well as by Conservation Authority staff as a result of *watershed* inventories, studies, or routine day to day operations.

At the request of the landowners immediately involved, and in *consultation* with adjacent property owners, the Conservation Authority is called upon to address the problem. To assess the problem and determine what course of action ought to be taken, the Conservation Authority must investigate and evaluate a reasonable range of *alternative solutions.*

3.1.2 Preliminary Site Analysis

When the Conservation Authority has been requested to address a problem involving existing development which is at *risk* from flooding or *erosion*, the problem shall be investigated by staff to determine its cause, level of *risk* to human life and property, possible solutions, and, if it is serious enough to warrant further Conservation Authority involvement, or whether the problem should be dealt with by an agency other than the Conservation Authority or through a cooperative inter-agency effort.

When it is determined that formal Conservation Authority involvement is warranted, an evaluation of possible program options (i.e. *alternative solutions*) to deal with the problem and reduce the *risk* to *public* safety in the situation shall be completed. It is recommended that an informal site meeting occur with the affected landowner(s) to discuss *alternative solutions.*

3.1.3 Evaluation of Possible Conservation Authority Program Options

Once it has been determined that Conservation Authority involvement is necessary to deal with the concern, there are different programs by which this problem may be addressed. Regardless of the outcome of this process, it must be demonstrated that the proposed action falls within the scope of the Conservation Authority's *watershed* plan and is consistent with policies and appropriate programs within which the proposed project may be considered to be a part.

3.1.4 Selection of a Preferred Conservation Authority Program Option

There are four possible outcomes of the previous evaluation of Conservation Authority program options. These outcomes, as shown in Figure 1A, include:

- The Conservation Authority may decide that the "do-nothing" option is the best approach at this time. This would be the case in situations where *risk* to existing development or *public* safety is determined as minimal, or where the consequences of flooding or *erosion* are not of the magnitude that require Conservation Authority involvement.

- The Conservation Authority may decide that preventative measures can be used to address the problem, or that other protective programs such as land acquisition, or *floodproofing* are appropriate to deal with the situation. If this is the case, the planning process for such a program, and the requirements of that program in relation to the *EAA* will be followed.

- The Conservation Authority may decide that a major structural work could potentially be involved in remedying the situation. If the kind of action needed is remedial in nature but one which does not meet the intent of the definition of undertakings within the Class of Remedial Flood and Erosion Control Projects, (see Section 2.3, and Table 2.0), the Conservation Authority will begin to prepare an *Individual Environmental Assessment.*

- The Conservation Authority may determine that the action needed is a remedial *flood* and/or *erosion* control measure as described in the definition of undertakings in Section 2.3 and listed in Table 2.0. In such a case, planning shall proceed using the Class EA process described herein.

3.2 Initiation of the Class Environmental Assessment Process

The planning process outlined in the previous section, is one which occurs in Conservation Authorities' day to day activities. When it has been determined that a situation potentially requires a *flood* or *erosion* control project, which meets the definition of this class, the Conservation Authority will initiate the planning and design process as outlined in the following sections, and illustrated in Figure 1B. Landowners in the area and those who have been involved in the project's initiation will be encouraged to participate in planning with the Conservation Authority throughout the project's duration.

The process includes all steps which are necessary to plan, design, evaluate, implement, and monitor a project. The decision making in this process must be traceable. Therefore documentation occurs at each step. This documentation will be drawn together in a report detailing the project planning (Section 3.7.2).

At this point the first mandatory notice of the intention to undertake a remedial project will be given and copied to CO. As further detailed in Section 4.0 and Appendix E, this *public* notification process aims to invite *interested persons*, *Aboriginal Communities*, agencies, federal and provincial ministries with an interest in the project to participate in its planning with the Conservation Authority, throughout the planning process.

3.3 Examination of the Environmental Planning and Design Principles

Conservation Authorities, recognize that it is important to ensure that the planning and design of remedial *flood* and *erosion* control projects reflect a concern for *ecosystem*s. This requires that emphasis be placed not only on the prevention and mitigation of environmental impacts but also on environmental enhancement. The following principles endeavour to promote these goals. They shall be applied when implementing the planning and design process for remedial *flood* and *erosion* control projects.

- Remedial works shall be carried out only for the protection of existing development. These works will not be implemented for the sole purpose of facilitating future development.

FIGURE 1A
PLANNING AND DESIGN PROCESS SELECTION OF A PROGRAM OPTION

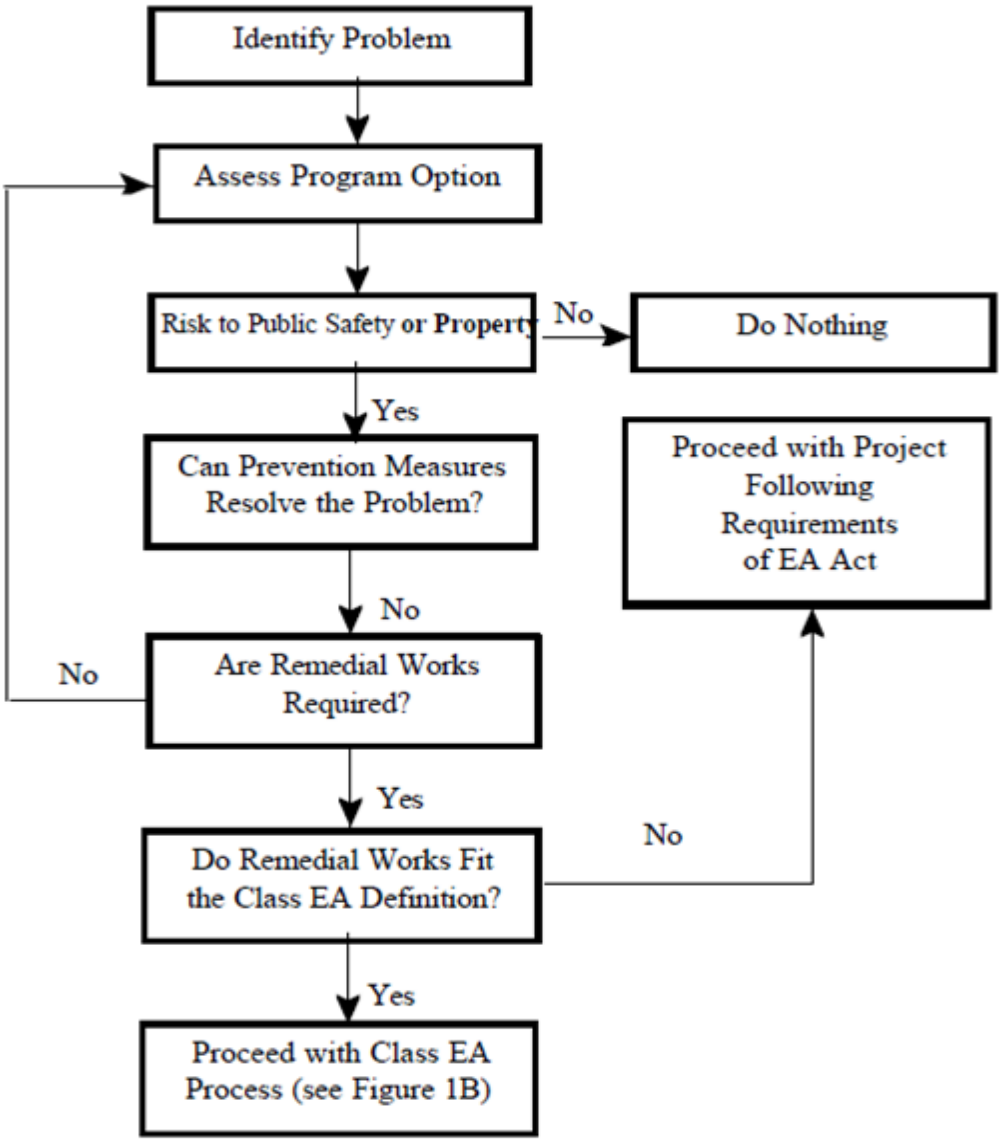
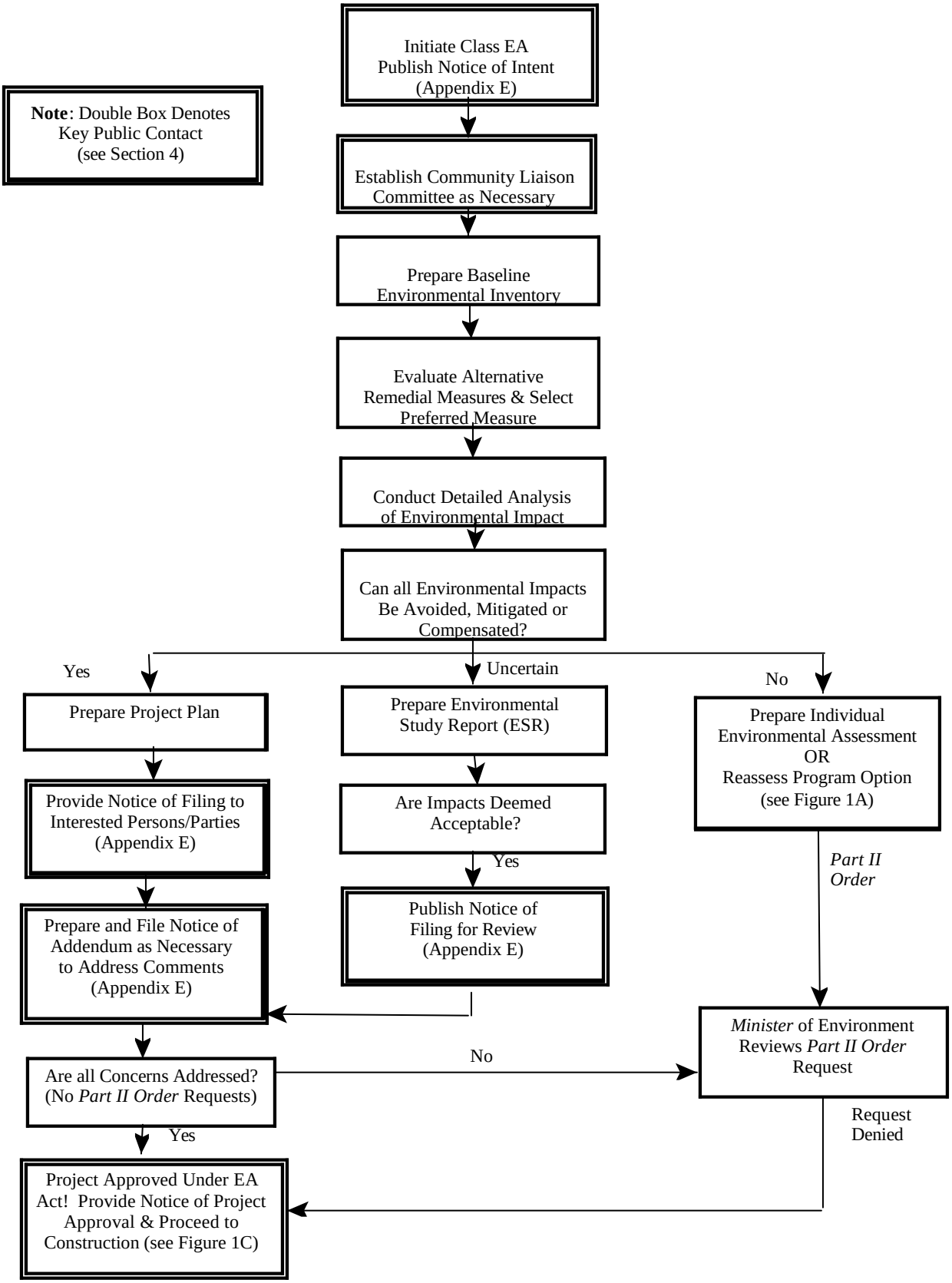


FIGURE 1B
PLANNING AND DESIGN PROCESS
CLASS ENVIRONMENTAL ASSESSMENT



- Alternative methods which replicate the natural *environment* shall be given preference over "hard" *alternatives* wherever possible, and, all projects should evaluate opportunities for enhancement of terrestrial or aquatic *habitats* as part of project design

- Detailed technical design, as well as specific requirements for supervision and *monitoring* of projects undertaken shall be completed by a multidisciplinary team. Collectively this team should possess all of the necessary qualifications to address technical issues surrounding the implementation of the undertaking.

- Remedial project design shall strive to re-establish, maintain or enhance the natural function (both biological and physical) and appearance of the watercourse or shoreline and associated features (*floodplain*, valley, *wetland*s, *beach*es etc.) while recognizing and preserving existing cultural and archaeological features of significance in the project's study area.

- Remedial measures shall be designed based on a thorough understanding of the biological, physical and hydrologic characteristics of the watercourse or the coastal processes of the lake. Characteristics include *ecosystem* structures/features, functions, boundaries and thresholds. Where remedial works are necessary in a *riverine* situation, the solution shall be developed based upon an appropriate *river reach* or valley system. Likewise, in a shoreline situation, the entire *littoral cell* will be considered.

- During rehabilitation, provide for the re-establishment of vegetative cover within the shoreline or valley system, particularly adjacent to the watercourse (riparian zone) or shoreline (backshore). Vegetation re-establishment shall be compatible with the existing, local, or disrupted community and efforts should be made to use native species of the local *flora*.

- The design of remedial works, involving migratory corridors, shall strive to ensure preservation or enhancement of the migratory character of the feature for *flora, fauna* and human activity, where appropriate. This includes the valley system, watercourse and shoreline interface both for terrestrial and aquatic *fauna*.

- In identifying the objectives for the aquatic/terrestrial *environment*s, the potential quality of the *ecosystem*, as well as its existing condition, shall be considered.

3.4 Review of the Selection of Conservation Authority Program Options

The planning and design process for the Class EA will begin with a review of decisions made in the Conservation Authority planning process. All steps in decision making which led to the selection of a *remedial project as the preferred program option, as documented by the Conservation Authority, shall be reviewed by interested government agencies, individuals and members of the Community Liaison Committee (Section 4.1.5).* The decision to proceed with the planning and design as a *remedial project shall be examined.* If not confirmed then the options to be considered, as shown in Figure 1A include:

- Do Nothing
- Pursue another Conservation Authority Program Option
- Prepare an *Individual Environmental Assessment*

If the decision to proceed with planning a remedial project is confirmed then this documentation will also be included in the report of the project planning (Section 3.7.2).

3.5 Preparation of a Baseline Environmental Inventory

Once a determination has been made that the preferred option is a *remedial project, as defined in this class,*

the planning process continues with the preparation of a baseline inventory. This inventory will provide the information needed to evaluate alternative methods of addressing the problem situation. It will also provide a baseline from which to monitor the effectiveness of the action, once taken, and the types and level of environmental impacts that resulted.

The inventory will involve the examination and documentation of:

- the flooding or *erosion* problem;
- existing site conditions including physical, biological, cultural, and socioeconomic characteristics;
- whether the site falls within a vulnerable area as identified in the local assessment report prepared under the *Clean Water Act*, 2006
- engineering/technical aspects to be considered; and,
- previous protective measures that have been implemented within the study area.

The study area will include both directly affected and indirectly affected *environment*s. The directly affected *environment* includes the *environment* within the bounds of the *flood* or *erosion* control problem where remedial works would be located, the access or construction route and those properties immediately adjacent to these areas. The indirectly affected *environment* includes the *environment,* as identified in the planning and design principles, within which the proposed works are likely to have an impact (e.g., the entire *littoral cell* and associated shorelands, or *river reach*, or valley system).

Interested persons, Aboriginal Communities and provincial and federal ministries or agencies with specific expertise relevant to the problem being addressed should be contacted for their input into the inventory process. Information from previous studies that have been undertaken within the study area should also be utilized.

The complexity of inventories will vary greatly from situation to situation. More detail will be necessary for complicated problems where there are design constraints due to limited access or in *environment*s where there is a high degree of *ecosystem* structure and function. The required level of documentation is specified in Appendix B - Baseline Environmental Inventory. This is intended to be a starting point for the environmental assessment process. The information collected through the baseline environmental inventory will be further used in the process for the evaluation of alternative methods and selection of a preferred method, as well as preparation of a *monitoring* program.

The inventory methods and results will be documented and included in the report of the project planning (Section 3.7.2).

3.6 Evaluation of Alternative Methods For Carrying Out Remedial Project

With the baseline inventory completed, possible alternative methods of carrying out the *remedial project are to be investigated.* A full range of *alternatives* should be considered including both traditional and innovative approaches. It must be demonstrated that no viable measures (see Table 2.0) have been overlooked. A summary of undertakings within the class and some examples of alternative methods are supplied in Table 2.0. This list shall be used as a starting point in identifying alternative methods.

The evaluation of alternative methods of carrying out the undertaking will include consideration of all applicable legislation, *regulations*, policies and guidelines (see listing in Appendix C), the Environmental Planning and Design Principles outlined in Section 3.3, and criteria relating to:

- *environmental effect*s, considering the broad definition of *environment* contained in the *EAA*,

- the effectiveness of the method to produce the desired result,
- the technical feasibility of undertaking the method, and
- the associated cost.

The information obtained in completing the baseline environmental inventory will be used in this evaluation of alternative methods and expanded upon as necessary. As outlined in Section 4.0 further *consultation* with the *public*, interest groups, and other agencies is strongly recommended.

In considering alternative methods specific consideration must be given to the advantages and disadvantages of each method. This will include an examination of the types and extent of impacts, both positive and negative, that each alternative method would likely have on each of the evaluation criteria. The "do nothing" method must also be considered in the analysis. The evaluation of impacts should include evaluation of both temporary impacts during construction of the undertaking, and permanent impacts due to operation and maintenance of the undertaking after construction. Table 3.0 will be used as a reference for the screening of potential effects.

As each method is examined, the net negative impact (that impact which cannot be avoided, reduced or compensated for) of carrying out the undertaking will be determined. This requires consideration of potential mitigation measures. The type and extent of this impact will also be specified.

When this is completed for each alternative method, a comparison of the relative advantages and disadvantages of each method will be undertaken. This will require making judgements about:

- the significance of the expected *environmental effect*s;
- the degree of the effectiveness of the method;
- the extent of the technical feasibility; and,
- the magnitude of the costs.

Once these determinations are made, then a judgement must be made regarding the relative importance of the criteria given the results. A matrix or graphic approach may aid in the collection, interpretation, and presentation of this information.

To conduct a meaningful evaluation and assessment, each of the alternative methods will be examined to a level of detail necessary to enable a preferred method to be identified. The level of complexity will depend upon the scope and complexity of the site and of the alternative methods being considered.

3.7 Selection of a Preferred Alternative

The evaluation process must be fully documented to allow traceability of each step of the process. That is, specific criteria examined to assess the alternative methods, the types, extent and significance of net impacts on that criteria, the weighting of the net impacts, and the decision making approach used must therefore be thoroughly documented and included in the report of the project planning (Section 3.7.2)

If, as a result of the consideration of the evaluation criteria, the "do nothing" alternative solution or the use of other Conservation Authority or other agency programs (e.g. land acquisition) are deemed to be more acceptable *alternative solutions*, there will be no further consideration as a remedial *flood* or *erosion* control project.

3.7.1 Detailed Environmental Analysis of the Preferred Alternative

Once the preferred alternative method of carrying out the undertaking is selected, then it will be subjected to more detailed study of the net impacts likely to be associated with implementation as previously determined. A further determination can then be made regarding how the potential net negative impacts can be best dealt with at the detailed design level.

TABLE 3

DETAILED ENVIRONMENTAL ANALYSIS - Screening of Potential Effects as negative (-),neutral (NIL) or positive (+) and rating them as relatively high (H), medium (M), low (L) or not applicable (NA)

Screening Criteria	Rating of Potential Effect							
	- H	- M	- L	NIL	+ L	+ M	+ H	NA
Physical								
Unique *Landforms*								
Existing Mineral/Aggregate Resources Extraction Industries								
Earth Science - Areas of Natural and Scientific Interest (*ANSI)*								
Specialty Crop Areas								
Agricultural Lands or Production								
Niagara Escarpment								
Oak Ridges Moraine								
Environmentally Sensitive/Significant Areas (physical)								
Air Quality								
Agricultural Tile or Surface Drains								
Noise Levels and Vibration								
High/Storm Water Flow Regime								
Low/Base Water Flow Regime								
Existing Surface Drainage and Groundwater Seepage								
Groundwater Recharge/Discharge Zones								
Falls within a vulnerable area as defined by the *Clean Water Act,*								
Littoral Drift								
Other Coastal Processes								
Water Quality								
Soil/*Fill* Quality								
Contaminated Soils/Sediments/Seeps								
Existing Transportation Routes								
Constructed Crossings (e.g. bridges, culverts)								
Geomorphology								
Other								
Biological								
Wildlife Habitat								
Habitat Linkages or Corridors								
Significant Vegetation Communities								
Environmentally Sensitive/Significant Areas (biological)								
Fish Habitat								
Species of Concern (e.g. species at risk, vulnerable/threatened/ endangered species, conservation priorities - either *flora or fauna*)								
Exotic/Alien and Invasive Species								
*Wildlife/*Bird Migration Patterns								
Wildlife Population								
Wetlands								
Microclimate								
Life Science *ANSIs*								
Unique *Habitats*								
Other								

DETAILED ENVIRONMENTAL ANALYSIS - Screening of Potential Effects as negative (-), neutral (NIL) or positive (+) and rating them as relatively high (H), medium (M), low (L) or not applicable (NA)

Screening Criteria	Rating of Potential Effect							
	- H	- M	- L	NIL	+ L	+ M	+ H	NA
Cultural								
Traditional Land Uses								
***Aboriginal Community* or Reserve**								
Outstanding Native Land Claim as identified by the *Aboriginal Community*								
Transboundary Water Management Issues								
Riparian Uses								
Recreational or Tourist Uses of a Water Body and/or Adjacent Lands								
Recreational or Tourist Uses of Existing Shoreline Access								
Aesthetic or Scenic Landscapes or Views								
Archaeological Resources								
Built Heritage Resources								
Cultural Heritage Landscapes								
Historic *Canals*								
Federal Property								
Heritage River System								
Other								
Socioeconomic								
Surrounding Neighbourhood or Community								
Surrounding Land Uses or Growth Pressure								
Existing Infrastructure, Support Services, Facilities								
Pedestrian Traffic Routes								
Property Values or Ownership								
Existing Tourism Operations								
Property/Farm Accessibility								
Other								
Engineering/Technical								
Rate of *Erosion* in *Ecosystem*								
Sediment* Deposition Zones in *Ecosystem								
Flood Risk* in *Ecosystem								
Slope Stability								
Existing Structures								
Hazardous Lands								
Hazardous Sites								
Other								

For any component where there is deemed a potential negative effect, describe in detail the cause, the degree of effect and measures to be taken to eliminate or reduce impact.

Note: See Appendix C for further information

To complete this environmental analysis, the information collected in the environmental inventory phase, as well as the assessment of alternative methods, will be used and expanded upon where necessary. As outlined in Section 4.0, further *consultation* with outside agencies, the *public*, and interest groups is also strongly recommended.

In the environmental analysis, the same areas of concern (i.e., physical, biological, cultural, socioeconomic and engineering/technical) that were examined in the baseline inventory and the evaluation of alternative methods are examined in greater detail in order to confirm potential impacts, refine methods of mitigation, and identify any unforeseen impacts. The evaluation of impacts should include evaluation of both temporary impacts during construction of the undertaking, and permanent impacts due to operation and maintenance of the undertaking after construction. Table 3.0 will be used again for the screening of potential *environmental effect*s of the preferred alternative.

In many cases, it will be apparent that the project under consideration will likely have no negative impact on the evaluation criteria or will have a positive impact. For each case where there is a possibility that the remedial work will have negative impacts, this possibility will be documented. Specific measures of avoiding, reducing, or compensating for the impact are to be described in greater detail. Refer to Appendix C for examples of "mitigation required" and "legislation/approvals/information" for addressing a range of impact situations. Interested persons and *Aboriginal Communities* will be notified and consulted. Discussions regarding suitable means to avoid, reduce, or compensate for these impacts will be held. If it is concluded that mitigation is possible to avoid all negative impacts this and the agreed upon methods to do so will be documented.

This process will systematically identify all areas of concern. It will include documentation of all methods of mitigation required to address these concerns and outline any concerns that cannot be resolved through mitigation methods. This process will be fully documented and included in the report of the project planning (Section 3.7.2) The analysis is not complete until all identified potential negative impacts are examined and documented in this fashion. A proposed monitoring program will be outlined and it will be commensurate with the predicted environmental impacts and mitigation/enhancement documented in this analysis.

3.7.2 Selection of Documentation Level

The detailed environmental analysis of the preferred alternative can lead to one of four possible conclusions, either:

1. It is apparent that all concerns of the Conservation Authority and reviewers can be addressed, that is, all possible negative impacts can be avoided, mitigated or compensated for satisfactorily. Those consulted by the Conservation Authority during the environmental analysis concur with these findings and conclusions. (This is most likely to be the case for *flood* and *erosion* problems of a relatively limited scale/scope in non- sensitive *environment*s.) or,

2. It is uncertain whether concerns regarding impacts can be resolved without further study or it is determined that negative impacts will occur that cannot be mitigated and consideration must be given to the trade-offs associated with the impact and the carrying out of a remedial work. (This is likely to be the case for more complex flooding and *erosion* problems or problems occurring in *environment*s with a high degree of *ecosystem* structure and function or which are in some way sensitive to human intervention.) or,

3. It is determined that there are likely to be negative impacts which were not foreseen and cannot be mitigated, and concerns on the part of interested individuals, groups and agencies will be difficult to resolve without intensive study, and a more rigorous planning process should be applied, or

4. It is determined that the negative impacts of a remedial project are of a magnitude that further

consideration as a remedial project will cease.

Each of the above conclusions will require a different documentation process to be followed.

3.7.2.1 <u>Project Plan</u> (Conclusion 1 of the Environmental Analysis).

A Project Plan is prepared for remedial works for which it has been demonstrated that there are no negative impacts or outstanding concerns held by the Conservation Authority or reviewers. The file that has been established for inclusion in this report of the project planning will include documentation relating to:

- the situation or problem to be addressed including the causes of the problem (identifying, where possible, if the problem is the result of post-1992 development), the history of the problem (identifying if the problem is affecting pre or post 1992 development) and the level of *risk*;
- the *alternatives* considered and the justification for remedial work;
- the baseline environmental inventory;
- the review and assessment of alternative methods of carrying out remedial work;
- the rationale underlying the selection of the preferred alternative method of carrying out the remedial work;
- the identification of potential impacts;
- *interested persons*, Aboriginal communities and agencies consulted;
- issues and concerns that have been raised;
- the identification of methods for avoiding or mitigating negative impacts;
- information on construction timing and what construction guidelines will be used; and
- proposed effects *monitoring*.

This information, together with a written description of initiatives for enhancement, shall be brought together in a Project Plan (PP) (Sample format is provided in Appendix D). For very minor projects, the PP may simply entail the Conservation Authority project file with brief responses to the bullet point items in Appendix D. Notice shall be sent to *interested persons, Aboriginal Communities*, and all other parties (i.e. government agencies) who have expressed an interest in the remedial work of the availability of the plan for review.

This PP shall be filed and made available at the Conservation Authority office and other suitable locations such as the local Municipal Office or Public Library, for review for a 30 day period. If, for unforeseen reasons, a concern is raised in this review that cannot be resolved through *consultation*, or negotiation, the Conservation Authority shall consider preparation of an Environmental Study Report (ESR) for the project. Alternatively, any party may make a request, with reasons, to the Minister of the Environment for a *Part II Order*. A *Part II Order* (previously called a bump-up) requires that a *proponent* comply with Part II of the *EAA* before proceeding with a proposed undertaking which has been subject to Class EA requirements (see Section 7).

If no concerns are raised during a 30 day review period, the project is considered approved under the *EAA*, and with the receipt of all other necessary approvals, implementation shall proceed. Notification that the project is approved shall be sent to all parties who have expressed an interest in the remedial work and to the CO office (see sample in Appendix E). Within 30 days of the "Notice of Project Approval", the "Proponent Conservation Authority Evaluation Form: Part A" (Appendix F) will be completed and submitted to CO.

3.7.2.2 <u>Environmental Study Report</u> (Conclusion 2 of the Environmental Analysis)

An ESR is prepared for projects for which it has been demonstrated that negative impacts will occur, and tradeoffs must be made, in choosing among alternative methods of carrying out the proposed remedial work. An ESR may also be prepared in response to concerns that arise in the preparation and/or review of a PP.

The ESR must meet the requirements of subsection 6.1(2) of the *EAA*, which reads;

> *"*...the environmental assessment must consist of,
>
> (a) a description of the purpose of the undertaking;
> (b) a description of and a statement of the rationale for:
> (i) the undertaking
> (ii) the alternative methods of carrying out the undertaking, and
> (iii) the *alternatives to* the undertaking;
> (c) a description of:
> (i) the *environment* that will be affected or that might reasonably be expected to be affected, directly or indirectly,
> (ii) the effects that will be caused or that might reasonably be expected to be caused to the *environment*, and
> (iii) the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate, or remedy the effects upon or the effects that might reasonably be expected upon the *environment*, by the undertaking, the alternative methods of carrying out the undertaking and the *alternatives* to the undertaking; and
> (d) an evaluation of the advantages and disadvantages to the *environment* of the undertaking, the alternative methods of carrying out the undertaking and the *alternatives* to the undertaking; and,
> (e) a description of any *consultation* about the undertaking by the *proponent* and the results of the *consultation*."

The file documented for inclusion in this report on the project planning will be the source of the required information for the ESR. It shall include the same documentation as for a PP and also information relating to options for dealing with unresolved concerns (See sample format in Appendix G). The major issue to be decided in determining whether to proceed with the proposed undertaking is whether the net impact is acceptable given the merits of the project. Thus, the ESR will document the decision making process and the value judgements made in selecting a preferred course of action. Criteria used in resolving this issue should be made explicit and developed proactively with concerned individuals, groups and agencies.

In this regard, a second mandatory notice will be given, stating that an ESR has been prepared for the project and filed at the Conservation Authority office, and other suitable locations such as the local Municipal Office or the Public Library. This notification process is further outlined in Section 4.0. Following this filing of the ESR a review period will extend for 30 days. If concerns raised in this review cannot be resolved through *consultation*, negotiation, or revisions to the ESR, the Conservation Authority shall consider preparing an Individual Environmental Assessment. Alternatively, any party may make a request, with reasons, to the *Minister* of the Environment for a *Part II Order* requiring that a *proponent* comply with Part II of the *EAA* before proceeding with a proposed undertaking which has been subject to Class EA requirements (see Section 7).

If concerns are resolved through the preparation and review of the ESR, or if the Minister of the Environment denies any *Part II Order* requests, the project is considered approved under the *EAA* and with the receipt of all other necessary approvals, implementation may proceed. Notification that the project is approved shall be sent to all parties who have expressed an interest in the remedial work and to the CO office (see sample in Appendix E). Within 30 days of the "Notice of Project Approval", the "Proponent Conservation Authority

Evaluation Form: Part A" (Appendix F) will be completed and submitted to CO.

3.7.2.3 **Individual Environmental Assessment** (Conclusion 3 of the Environmental Analysis).

An Individual Environmental Assessment is prepared for projects for which it has been determined that net impacts will occur and concerns cannot be easily resolved and which does not meet the definition set out in Section 2.3 of this Class EA. This Individual Environmental Assessment process includes a formal government review of the project's planning and may lead to a formal hearing where approval to proceed is granted or denied. The need for an Individual Environmental Assessment will, in most circumstances, be recognized early in the planning process, but may, in unforeseen circumstances, occur as a result of the review of the ESR.

In such cases, the procedures set out in this Class EA do not apply. Instead, the Conservation Authority shall adhere to the procedures and the information requirements set out in the *EAA* and Ontario Regulation 334/90 for approvals of individual undertakings. Conservation Authorities engaging in Individual Environmental Assessments should contact the Environmental Assessment and Approvals Branch (EAB) of the MOE for information respecting the requirements of the *EAA* before initiating a planning process.

3.7.2.4 **Reconsideration of Remedial Project** (Conclusion 4 of the Environmental Analysis)

In circumstances where it is determined that the negative impacts of a remedial project are of a magnitude that were unforeseen, and other Conservation Authority Programs such as land acquisition are deemed more appropriate, further consideration as a remedial project will cease, and other options will be explored.

3.8 Addenda to Environmental Study Reports and Project Plans

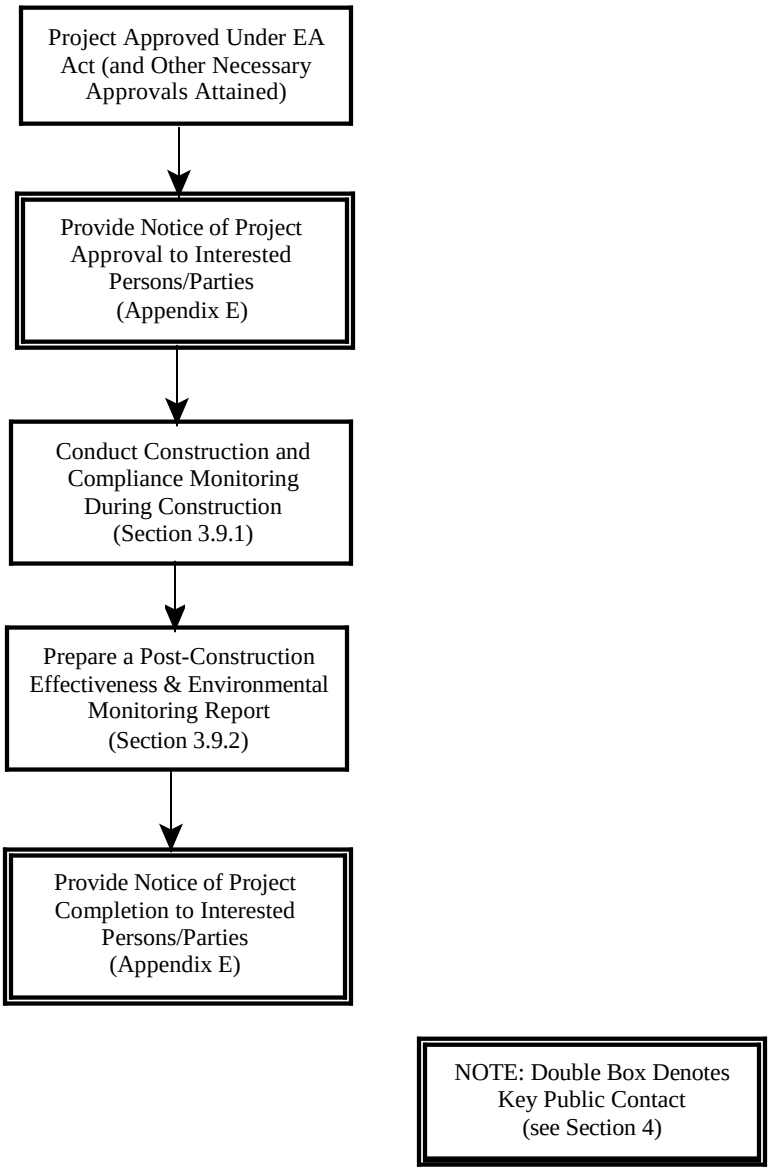
Comments raised in the 30 day *public/agency* review of an ESR or a PP, or the passage of time, or a change in the environmental setting, or other unforeseen circumstances, may necessitate a change to the proposed undertaking. In such circumstances, where it is determined by a Conservation Authority in *consultation* with the undertaking's Community Liaison Committee and affected parties that the change is significant, an addendum to the ESR or PP shall be prepared by the Conservation Authority. During this time, no work will be undertaken which might adversely affect that part of the project being addressed by the proposed addendum. Where it is determined that the change is significant enough, in *consultation* with all who expressed an interest in the project, then a Conservation Authority may volunteer to prepare a new PP or a new ESR rather than an addendum.

The addendum shall describe the circumstances necessitating the change, the environmental implications of the change and what mitigation methods will be employed to mitigate negative *environmental effect*s of the change. The addendum shall be filed with the ESR or the PP and a Notice of Filing of Addendum (see Appendix E) shall be issued in the same manner as the Notice of Filing for the ESR or PP of the undertaking.

A period of 15 days following the issuance of a Notice of Filing of Addendum shall be provided by the *proponent* for *public* and agency review of the addendum. During this 15 day period, it may be requested that the undertaking, as documented in the addendum, be subject to a *Part II Order*, in accordance with the procedures set out in Section 7.0 of this Class EA.

When the proposed change is in response to an emergency situation during construction of the undertaking or where a delay in the implementation of the change would result in detrimental *environmental effect*s, the

FIGURE 1C
PLANNING AND DESIGN PROCESS
CONSTRUCTION AND MONITORING



change would be implemented without delay and affected parties would be contacted. An addendum would subsequently be prepared for significant changes to the undertaking.

3.9 Effects Monitoring

Monitoring is an integral part of any *flood* and *erosion* control project. It will be a part of the implementation of all projects approved under this Class EA, regardless of the kind of report prepared. While it is recognized that effects *monitoring* must be individually tailored to the specific *flood* or *erosion* control project, the following sections outline general *monitoring* requirements.

3.9.1 Construction Monitoring and Requirements for Follow-up

This form of effects *monitoring* includes general construction supervision as performed by staff of the Conservation Authority, or agents thereof. This is completed to ensure methods identified for addressing concerns and environmental enhancement are carried out as planned, and that any problems which may arise during construction are addressed properly.

Supervision of project construction shall be under the direction of the Conservation Authority site supervisor and ultimately is the responsibility of senior staff of the Conservation Authority. Responsibility includes ensuring adherence to the approved design and *monitoring* requirements documented in the detailed environmental analysis of the preferred alternative (Section 3.7.1), as well as, any conditions requiring *monitoring* that are imposed on a project as part of a Minister's denial of a *Part II Order* request (Section 7.0, #8). Where the work is not directly undertaken by staff, and construction contracts are awarded, provisions will be included in the contract stipulating adherence to the approved design and *monitoring* requirements. All construction activities proceeding under this Class EA will be conducted in accordance with the guidelines, policies, *regulations,* and statutes listed in Appendix C.

Senior staff and the site supervisor will be responsible for ensuring that every effort is made to safeguard the terrestrial and aquatic *environment*s. If *monitoring* identifies any deficiencies in the installation of the designed measures, prompt actions must be taken to ensure that they function effectively to prevent any potential adverse impacts to the *environment.* Senior staff and the site supervisor will be responsible for ensuring that procedures are followed which will include, but are not limited to the following:

- inspections to ensure that the necessary measures for addressing concerns are properly in place (e.g., fencing of sensitive features, location of access routes and stream crossing, etc.);
- meetings with project construction staff to ensure that all staff involved understand why and how environmental features are to be protected;
- providing direction when unanticipated circumstances arise, and to ensure no adverse impacts to the receiving *environment*;
- rectifying deficiencies promptly and as necessary;
- approving each phase of project construction prior to proceeding with the next phase;
- making additional recommendations as the project proceeds.

Concerned agencies and individuals may be invited to visit construction sites to gain a better understanding of the construction process and to make their own assessment of the construction impacts of these undertakings. Please note that visits must be scheduled in advance to ensure full compliance with all safety requirements under the *Occupational Health and Safety Act*.

3.9.2 Post Construction Monitoring

For each project implemented under this Class EA, a Post Construction Monitoring Report will be prepared by the Conservation Authority within one year of project construction unless the approved project's *monitoring* program specifies otherwise. Notification that the project is completed shall be sent to *interested persons*, *Aboriginal Communities* and all other parties who have expressed an interest in the remedial work. and to CO (see sample "Notice of Project Completion" in Appendix E). In addition to the notice, a copy of the Post Construction Monitoring Report shall be sent to *interested persons*, *Aboriginal Communities* or government reviewers who expressed a concern during the planning and design process of the project. Within 30 days of the date on the "Notice of Project Completion", the "Proponent Conservation Authority Evaluation Form: Part B" (see Appendix F) will be completed and submitted to CO.

This form of effects *monitoring* includes post construction inventories and studies which will be used to evaluate the success of the project for its intended purpose, as well as the success of mitigative techniques and enhancement features incorporated in the project. The level of detail in the Post Construction Monitoring Report will be commensurate with the predicted environmental impacts and mitigation/enhancement documented in the detailed environmental analysis of the preferred alternative (Section 3.7.1). It will report on the *monitoring* program outlined in the approved PP or approved ESR.

Thus, the Post Construction Monitoring Report will include, as appropriate:

- an assessment of the effectiveness of the undertaking in achieving its desired goals;
- documentation of follow-up maintenance as necessary;
- a summary of the baseline inventory for the site with reference to applicable factors where impacts were anticipated and identified in Table 3: Detailed Environmental Analysis;
- documentation of changes in baseline site conditions, including a photographic record, identifying positive and negative changes and any changes that can be attributed to the remedial work itself as opposed to natural processes or other "causes";
- measures that have been or will be taken to address these impacts; and,
- a schedule for ongoing *monitoring* (e.g. annual site inspections).

The Conservation Authority is encouraged to transfer new knowledge obtained through the Post Construction Effects Monitoring Reports to all Conservation Authorities (see Section 10.0 and Section 11.0).

4.0 OPPORTUNITIES/PROVISIONS FOR INVOLVEMENT

The planning and design process, as outlined in the previous section, has been developed to provide avenues through which *interested persons*, *Aboriginal Communities*, and federal and provincial government agencies can participate. The purpose of this section is to outline the opportunities and provisions for participation for *interested persons*, government agencies and *Aboriginal Communities* throughout the Class EA process for remedial *flood* and *erosion* control projects. The notice provisions and some of the opportunities/provisions for involvement are highlighted in Figures 1B and 1C, as included in the previous section. For more detailed descriptions of *consultation* methods and techniques, reference can be made to the most current consultation guide prepared by the MOE.

Conservation Authorities, by their nature, are fully accountable to the *public*. Members of the Authorities are elected or appointed by the member municipalities and all Conservation Authority Board meetings are open to the *public*. Therefore, any person or interest group can, at any time, provide input to and seek information from their local member, Conservation Authority staff, or by attending a meeting of their local Conservation Authority.

4.1 Opportunities for Participation

In carrying out their duties as planners and designers of remedial *flood* and *erosion* control projects, Conservation Authority staff can benefit from the participation of individual citizens, non-governmental groups and associations, and other government agencies. This Class EA offers several opportunities for participation, each reflecting different levels of intensity or *commitment* of time and energy on the part of the *public.* They include opportunities to participate as a member of the general *public,* as a member of the Conservation Authority contact group, and as a member of a Community Liaison Committee. As good practice, Conservation Authorities should obtain input and advice from the MOE Regional *Environmental Assessment Coordinator* early in the process for identification of *Aboriginal Communities, interested persons* and government agencies. This would minimize the possibility of persons coming in at the end of a process and raising concerns or objecting to the outcomes of the process and reduce the potential for a Part II Order.

4.1.1 Aboriginal Communities

The *Constitution Act, 1982* defines Aboriginal peoples of Canada as including Indians, Inuit and Métis peoples. Section 35 of the *Constitution Act 1982* recognizes and affirms the existing Aboriginal and treaty rights of Aboriginal peoples.

Aboriginal Communities often have a range of views and experience to contribute to a project. Engagement may take on different forms in each community, depending on both the scope of the project and the interests of the community. Aboriginal engagement is intended to provide *Aboriginal Communities* with an opportunity to receive information about and have input to the project proposal and, equally to allow the *proponent* to identify and consider the concerns and issues of those communities.

Interest-Based Consultation

Proponents subject to the *Environmental Assessment Act* are required to consult with interested *Aboriginal Communities* in addition to *consultation* with other *interested persons.* Special effort may be required to ensure that *Aboriginal Communities* are made aware of the project and are afforded an opportunity to provide comments. Interest-Based *Consultation* allows *Aboriginal Communities* to raise concerns that are outside of those that are Aboriginal or treaty rights-based and generally follows the notification and *consultation* process that is outlined throughout this Class EA for *interested persons*.

Proponents are required to contact the Ministry of Aboriginal Affairs (MAA) and Aboriginal Affairs and Northern Development Canada (AANDC) early in the Class EA process for assistance in determining which *Aboriginal Communities* may have an interest in activities being undertaken in the geographical area of their project.

Rights-Based Consultation

Proponents should also be aware that certain projects that may restrict access to unoccupied Crown lands, or could result in a potential to impact land or water resources, may also adversely affect the ability of *Aboriginal Communities* to exercise their established or asserted Aboriginal or treaty rights. In such cases, the Crown may have a constitutional duty to consult, and where appropriate accommodate, those *Aboriginal Communities*.

If there is a potential to adversely impact Aboriginal or treaty rights, accommodation may be required. Accommodation is an outcome of *consultation* and includes any mechanism used to avoid, minimize or mitigate adverse impacts to Aboriginal or treaty rights and traditional uses. Solutions could include adjustments in the timing or geographic location of the proposed activity; accommodation does not necessarily require the provision of financial compensation.

If the *proponent* is uncertain as to whether or not the Crown's duty to consult could arise, or if it appears that there may be a duty to consult, the *proponent* must contact the MOE (*Director,* Environmental Approvals Branch (EAB) early in the project planning process and provide a description of the project's characteristics and

location. In addition, the *proponent* must contact the MOE if at any time during the Class EA process an *Aboriginal Community* asserts that the project could adversely affect its Aboriginal or treaty rights, or that there has not been adequate *consultation*. The MOE will then determine whether the Crown has a duty to consult and advise the *proponent* on how to proceed, including providing additional direction on *consultation* requirements as necessary.

Procedural Aspects of Consultation

When triggered for a project, the duty to consult rests with the Crown, and the Crown is ultimately responsible for ensuring that the duty has been met. However, the Crown may delegate the day-to-day, procedural aspects of *consultation* to *proponents*. Proponents, by virtue of their knowledge and participation in project activities, have an important and direct role in the *consultation* process.

Under this Class EA, the Crown is delegating the procedural aspects of rights-based Aboriginal *consultation* to proponents. The Crown will have an oversight role as the *consultation* process unfolds but will be relying on the steps undertaken and information obtained by the *proponent* to ensure adequate *consultation* and accommodation has taken place for any duty to consult that arises from a project.

The responsibilities of the *proponent* for the procedural aspects of *consultation* include: providing notice and information about the project to *Aboriginal Communities*, with sufficient detail and at a stage in the process that allows the communities to prepare their views on the project and, if appropriate, for changes to be made to the project. This can include:

Providing Information

- accurate, complete and plain language information including a detailed description of the nature and scope of the project maps of the project location and any other affected area(s);
- information about the potential negative effects of the project on the *environment*, including their severity, geographic scope and likely duration. This can include, but is not limited to, effects on ecologically sensitive areas, water bodies, *wetland*s, forests or *habitat* of species at *risk* and *habitat* corridors;
- a description of other provincial or federal approvals that may be required for the project to proceed;
- whether the project is on privately owned or Crown controlled land;
- any information the *proponent* may have on the potential effects of the project, including particularly any likely adverse impacts on established or asserted Aboriginal or treaty rights (e.g. hunting, fishing, trapping and the harvesting of wild plants) or on sites of cultural significance (e.g. burial grounds, archaeological sites);
- identification of any mechanisms that will be applied to avoid, minimize or mitigate potential adverse impacts;
- identification of a requested timeline for response from the community and the anticipated timeline for the project following each notification;
- an indication of the *proponent's* availability to discuss the process and provide further information about the project;
- the *proponent's* contact information; and,
- any additional information that might be helpful to the community;

Requesting Information

- a written request asking the *Aboriginal Community* to provide in writing or through a face-to-face meeting:
    - any information available to them that should be considered when preparing the project documentation;
    - any information the community may have about any potential adverse impacts on their Aboriginal or treaty rights; and,
    - any suggested measures for avoiding, minimizing or mitigating potential adverse impacts;

Responding to Concerns Raised

- following up, as necessary, with *Aboriginal Communities* to ensure they received project notices and information and are aware of the opportunity to comment, raise questions or concerns and identify potential adverse impacts on their established or asserted rights;
- considering and responding to comments and concerns raised by *Aboriginal Communities* and answering questions about the project and its potential impacts on Aboriginal or treaty rights;
- as appropriate, discussing and implementing changes to the project in response to concerns raised by *Aboriginal Communities*. This could include modifying the project to avoid or minimize an impact on an Aboriginal or treaty right (e.g., altering the season when construction will occur to avoid interference with mating or migratory patterns of *wildlife*); and,
- informing *Aboriginal Communities* about how their concerns were taken into consideration and whether the project proposal was altered in response.

Addressing Capacity

- Proponents should recognize that many communities have capacity challenges that can hinder participation in *consultation*. In addition to taking the actions outlined above, *proponents* may assist *Aboriginal Communities* in their capacity needs on a case-by case basis. The *proponent* should seek guidance from the MOE if the *proponent* is unsure about how to deal with a capacity concern raised by an *Aboriginal Community*.

If the *proponent* is unclear about the nature of a concern raised by an *Aboriginal Community* during the course of *consultation*, the *proponent* should seek clarification and further details from the community, provide opportunities to listen to community concerns and discuss options, and clarify any issues that fall outside the scope of the *consultation* process. These steps should be taken to ensure that the *consultation* process is meaningful and that concerns are heard and, where possible, addressed.

The *proponent* should also seek guidance from the MOE at any time during the Class EA *consultation* process, and should contact the MOE if the *proponent* is unsure about how to deal with a concern raised by an *Aboriginal Community*, particularly if the concern relates to a potential adverse impact on established or asserted Aboriginal or treaty rights.

The *consultation* process must maintain sufficient flexibility to respond to new information, and the *proponent* should make all reasonable efforts to build positive relationships with all *Aboriginal Communities* potentially affected by the project. If a community is unresponsive to efforts to notify and consult, the *proponent* should nonetheless make attempts to update the community on the progress of the project under the Class EA.

If MOE considers that there are outstanding issues related to *consultation*, MOE may directly undertake additional *consultation* with *Aboriginal Communities*. MOE reserves the right to provide further instructions to a *proponent* or add communities throughout the Class EA *consultation* process.

Consultation Record

It is important to ensure that all *consultation* activities undertaken with *Aboriginal Communities* are fully documented. This includes all attempts to notify or consult the community, all interactions with and feedback from the community, and all efforts to respond to community concerns.

Where the duty to consult is triggered for a project, MOE requires a complete *consultation* record in order to assess whether Aboriginal *consultation* and any necessary accommodation is sufficient for the project to proceed.

Further, as part of its oversight role, the MOE may, at any time during the Class EA process, request records from the *proponent* relating to *consultation*s with *Aboriginal Communities*. Records provided to the MOE will be subject to the *Freedom of Information and Protection of Privacy Act*.

The *consultation* record should include, but not be limited to, the following:

- a list of the identified *Aboriginal Communities* contacted;
- evidence that notices and project information were distributed to, and received by, the *Aboriginal Communities* (via courier slips, follow up phone calls, etc.). Where a community has been non-responsive to multiple efforts to contact the community, a record of such multiple attempts and the responses or lack thereof;
- a written summary of *consultation*s with *Aboriginal Communities* and appended documentation such as copies of notices, any meeting summaries or notes including where the meeting took place and who attended, and any other correspondence (e.g., letters and electronic communications sent and received, dates and records of all phone calls);
- responses and information provided by *Aboriginal Communities* during the *consultation* process. This includes information on Aboriginal or treaty rights, traditional lands, claims, or cultural heritage features and information on potential adverse impacts on such Aboriginal or treaty rights and measures for avoiding, minimizing or mitigating potential adverse impacts to those rights; and,
- a summary of the rights/concerns, and potential adverse impacts on Aboriginal or treaty rights or on sites of cultural significance (e.g. burial grounds, archaeological sites), identified by *Aboriginal Communities*; how comments or concerns were considered or addressed; and any changes to the project as a result of *consultation*, such as:
    - changing the project scope or design;
    - changing the timing of proposed activities;
    - minimizing or altering the site footprint or location of the proposed activity;
    - avoiding the Aboriginal interest,
    - environmental *monitoring*; and,
    - other mitigation strategies.

Aboriginal Traditional Knowledge

Aboriginal Communities may share traditional knowledge with *proponents.* In general, traditional knowledge refers to indigenous knowledge systems that have been developed and maintained over time. Traditional knowledge, as well as community views and desires regarding the use of Aboriginal traditional knowledge, will be treated with respect by *proponents.* If a community decides to share its traditional knowledge with a *proponent,* they should be informed that any portion of that knowledge that forms part of project documents and is submitted to the MOE will be subject to the *Freedom of Information and Protection of Privacy Act*.

4.1.2 Public Participation

The general *public* shall be invited to participate in the planning and design of remedial *flood* and *erosion* control projects by notices placed in local newspapers, in accordance with the notification procedures set out in Section 4.2.

4.1.3 Interested Persons

Interested persons may participate by:

- reviewing copies of reports and documents produced by the Conservation Authority in compliance with the planning requirements of this Class EA;
- providing oral and/or written comment to Conservation Authority staff;
- attending information sessions to obtain a better understanding of the proposal for a remedial work and to have questions answered;
- meeting with Conservation Authority staff to discuss concerns;
- having their names added to the project mailing list to be directly notified of future updates to the undertaking and, in so doing, become a member of the Conservation Authority contact group (Section 4.1.4) for the project; and
- requesting to be a member of the Community Liaison Committee (Section 4.1.5).

Responsibilities of Interested Persons

When a project is being planned and developed under a Class EA, *interested persons* are responsible for:

- Identifying environmental issues related to the *Class Environmental Assessment Project* to the *proponent* as soon as possible in the planning process;
- Participating in discussions with the *proponent* to address concerns. If during the evaluation of a *Class Environmental Assessment Project, interested persons* have not participated and later request a *Part II Order,* the lack of participation in the process will be considered by the Minister of the Environment or delegate when making a decision on whether or not to grant the request;
- Focusing on matters relating to the Class EA process and the proposed project: for example, potential effects of the project, appropriate notification, the nature of the *public consultation* process, mitigation measures and design features; and
- Suggesting modifications to the specific project or environmental assessment documentation that may address concerns, for example, changing the orientation of the project on the site, screening to minimize visual impact, or changing the location of site access.

4.1.4 Conservation Authority Contact Group Participation

Members of the Conservation Authority's contact group are defined as *interested persons.* This group can include individuals or representatives from local government agencies, *public* organizations, naturalist groups, fish and game clubs, boating federations, ratepayers associations, municipal Local Architectural Conservation Advisory Committees, or Ecological and Environmental Advisory Committees, Remedial Action Plans, business interests, agricultural organizations, heritage organizations etc. This group should include any relevant agencies identified through Section 3.6 "Evaluation of Alternative Methods for Carrying out Remedial Projects" since the evaluation includes consideration of applicable legislation, *regulations,* policies and guidelines.

Individuals from this contact group list shall be invited to participate in the planning, design and evaluation of remedial *flood* and *erosion* control projects by direct mailing of notices according to the notification procedures outlined in Section 4.2. As well, Conservation Authorities will make direct contact with the most directly affected members of the *public* (e.g. neighbouring landowners).

Members of the contact group may participate by:

- reviewing copies of reports and documents produced by the Conservation Authority in meeting the planning requirements of this Class EA;
- helping to disseminate information about the Conservation Authority's remedial work planning and design efforts to other members of their group;
- providing oral and/or written comment to Conservation Authority staff;
- attending information sessions to obtain a better understanding of the proposal for a remedial work and to have questions answered;
- meeting with Conservation Authority staff to discuss concerns;
- sharing knowledge and information they may have relating to the *flood* and/or *erosion* problem, the *environment* concerned, potential impacts, possible impact prevention and mitigation measures, and possible environmental enhancement methods; and
- requesting to be a member of the Community Liaison Committee.

4.1.5 Community Liaison Committee Participation

In an effort to facilitate more on-going *public* involvement at the project level, the Conservation Authority shall, based on its contact group mailing list and expressions of interest from *interested persons, Aboriginal Communities* or agencies, establish a Community Liaison Committee to assist the Conservation Authority by obtaining additional *public* input concerning the planning and design process of an individual *flood* and/or *erosion* control project, and to review information and provide input to the Conservation Authority throughout the process. The Conservation Authority shall strive to ensure that the membership of the Community Liaison Committee is representative of all views respecting a proposed remedial *flood* and *erosion* control project.

As noted in Section 4.2, a Community Liaison Committee shall be established, on a project by project basis, once it has been determined that a remedial work of some kind is necessary to deal with a specific *flood* and/or *erosion* situation and the *public* have been notified of the intent to undertake a *remedial project.* The Committee may assist with more than one remedial work project but shall normally remain in place only as long as the Class EA planning and design process is being implemented. Once the project is approved or if a decision is made not to proceed with the project, the Committee will normally be disbanded. The Conservation Authority may decide to maintain the Community Liaison Committee for a period during the post-construction phase, when *monitoring* is being undertaken, or to draw upon the Committee's assistance in the preparation of an Individual Environmental Assessment.

Participation in a Community Liaison Committee is the most intensive form of *public* involvement. Involvement would demand more of a *commitment* of time and energy from its members, than either the contact group or general *public* participation.

In certain circumstances there may not be substantial *public* interest in a proposed undertaking. In such circumstances, the structure and composition of the Community Liaison Committee may be less formal, based on the discretion of the Conservation Authority and the *interested persons*. Where no parties have expressed an interest in a proposed undertaking following the *publication/mailing* of a Notice of Intent, the Conservation Authority may plan its undertaking without creating a Community Liaison Committee.

As the name implies, the function of the Community Liaison Committee, in the Class EA process, will be to assist the Conservation Authority to reach out and maintain contact with *interested persons*, and *Aboriginal Communities*. The Community Liaison Committee will provide direct input to the process. At the end of the process the entire committee will have been exposed to the entire process, will have understood how decisions have been reached and will have had their questions answered during the process.

To fulfill its function, the Community Liaison Committee will:

- identify items of *public* concern with regard to the impact and design of proposed *flood* reduction *alternatives*;
- provide direct input on these concerns to the Conservation Authority to be utilized throughout the planning and design process;
- co-host, with Conservation Authority Staff, meetings organized by the Conservation Authority to facilitate the resolution of concerns relating to a proposed remedial work;
- review any *Part II Order* requests made by members of the *public* and attempt to resolve the issues of concern between the *Part II Order* requesters and the Conservation Authority before the request gets referred to the Minister of the Environment for a decision;and,
- where appropriate, submit an assessment to the Conservation Authority, upon project completion, commenting on the effectiveness of the Class EA process for meeting *public* concerns for the specific project and, where relevant, identify possible improvements (An example format for this report is found in Appendix H).

Guidelines for the administration and operation of the Community Liaison Committees are outlined in Appendix I of this Class EA.

4.2 Public Notification Requirements

In following the planning and design process for remedial *flood* and *erosion* control projects, there are points at which *public* notification must be given. The purpose of this section is to outline these requirements. Some key points in the process where *public* contact is required are shown in Table 4, Figures 1B and 1C and Appendix E provides sample notices. It must be noted, however, that these are the minimum requirements only. The extent of the *public* notification is up to the discretion of the Conservation Authority. The decision to consult further with the *public* would be based on the nature and extent of the project. The Class EA is a *proponent* driven process, and therefore, it is up to the *proponent* to determine the level of *consultation* required for a project, keeping in mind that the Class EA sets out the minimum requirements that must be followed by the *proponent.* In the event that a *Part II Order* request is received, at that time the ministry will assess whether or not the Conservation Authority has adequately consulted and addressed concerns raised by *interested persons*, government agencies and *Aboriginal Communities*. In addition to publishing notices in the local press, other methods of notifying the *public* that a Conservation Authority may consider include radio/TV announcements, notices posted in community facilities, notices posted at the site of the project and on the Conservation Authority and/or other website(s), and notices posted on social media platforms. Each Conservation Authority must determine for itself, on a project by project basis, whether it is appropriate and

how to expand *public* notification opportunities. It is recommended that consideration be given to special timing requirements (e.g. frequency of meetings) identified by groups/associations wanting to participate in the process.

The first mandatory notification occurs when the Class EA process is initiated. At this point, *public* notification includes:

- A Notice of Intent to Undertake a Remedial Project shall be published in the local press. (A sample of this notice is contained in Appendix E.)
- A Notice of Intent to Undertake a Remedial Project shall be sent by direct mail to the Conservation Authority contact group mailing list and sent to the CO office.
- Conservation Authority staff shall cause a Community Liaison Committee to be formed, taking into account interest expressed by the landowners who initiated the project and individuals notified through these activities.

The second mandatory notification occurs when the report on the project planning is filed. For those projects which involve preparation of a PP, the second mandatory point of notification occurs when the PP is filed for review.

- Notice of filing of this plan for review shall be sent to all parties contacted in the first notification process who expressed an interest in the remedial work and sent to the CO office.

With regard to projects that involve preparation of an ESR, the second mandatory notification occurs when the ESR is filed for review. Issuance of a Notice of Filing of the ESR will involve the following:

- The Notice of Filing of an ESR shall be published in the local press. (A sample of this notice is contained in Appendix E.)
- The Notice of Filing of an ESR shall be sent by direct mail to the Conservation Authority contact group mailing list, sent to all who expressed an interest in the remedial work and sent to the CO office.
- The Community Liaison Committee shall meet to discuss the ESR before the Notice of Filing to provide input and afterwards to address any comments received.

As necessary to address comments and/or changes to the PP or ESR, a Notice of Filing of Addendum (see Figure 1B and Section 3.8) shall be issued in the same manner as the Notice of Filing for the ESR or PP of the undertaking (see samples in Appendix E).

In the interest of good project management and as per Figures 1B and 1C, a Notice of Project Approval and a Notice of Project Completion shall be sent to all *interested persons* who expressed an interest in *flood* and *erosion* control remedial work and sent to the CO office (see samples in Appendix E).

It is the responsibility of the Conservation Authority to explain to *interested persons*, and *Aboriginal Communities* the rights given to them under this Class EA. This includes, but is not limited to, the provision to request a *Part II Order* (see Section 7), and the availability of detailed information (e.g. *Class EA*, the PP and documentation, the ESR and documentation) at *public* location(s) for review by those who request it and when the study is being discussed with *interested persons* and *Aboriginal Communities*.

TABLE 4
SUMMARY OF NOTIFICATION AND DOCUMENTATION REQUIREMENTS UNDER THE CLASS EA

ALL stages of Public Notification and Project Documentation listed in the following table are required to be submitted to CO within the specified time-frames to allow for continuous tracking and *monitoring* of Conservation Authority activities under CO's 2002 Class EA document. Information is used for the completion of CO's Annual Effectiveness Monitoring Report, which is a requirement under the approval of CO's 2002 Class EA **(Amended September 2009)**.

Notification & Documentation Requirements	**Reference in 2002 Class EA document**	**Explanation**	**Public Notification Requirements**	**Notification/ Documentation Requirements to CO and MOE**
1. Notice of Intent	- Figure 1B - Section 4.2 - Appendix E	- Issued when study is to be initiated. - Invites *public* to participate in study	To be sent to: - *Aboriginal Communities* - Local press - Contact groups	Notice to be sent to CO and MOE Region Office at time of issuance to public.
2. Notice of Filing Document for Review	- Figure 1B - Section 4.2 - Appendix E	- Issued when study has been completed - Invites *public* to review document and provide comments to Conservation Authority - 30 day comment period	To be sent to: a) For PP - Those who expressed interest in study b) For ESR - *Aboriginal Communities* - Local press - Contact Group - Those who expressed interest in study	Notice to be sent to CO and MOE Region Office at time of issuance to public.
3. Notice of Filing of Addendum	- Figure 1B - Section 3.8 - Section 4.2 - Appendix E	- Study has already been completed but due to comments raised during *public* review, passage of time, change in environmental setting, or unforeseen circumstances, a change in the proposed undertaking may be needed. - Invites *public* to review document and provide comments to Conservation Authority - 15 day comment period	To be sent to: c) For PP - Those who expressed interest in study d) For ESR - *Aboriginal Communities* - Local press - Contact Group - Those who expressed interest in study	Notice to be sent to CO and MOE Region Office at time of issuance to public.

Notification & Documentation Requirements	Reference in 2002 Class EA document	Explanation	Public Notification Requirements	Notification/ Documentation Requirements to CO and MOE
4. Notice of Project Approval	- Figure 1B - Figure 1C - Section 4.2 - Appendix E	- Planning and design of project has been completed. - Informs *public* that project is ready for construction	To be sent to:- All those who expressed an interest in the project	Notice to be sent to CO at time of issuance to public.
a) Proponent Conservation Authority Evaluation Form – Part A	- Section 3.72 - Section 3.92 - Appendix F	- Provides CO with a summary of Conservation Authority's satisfaction with the various stages of the Class EA planning and design process. - Results used in CO's Annual Effectiveness Monitoring Report and the Five Year Review	None	Proponent Conservation Authority Evaluation Form – Part A to be submitted to CO within 30 days of "Notice of Project Approval"
5. Notice of Project Completion	- Figure 1C - Section 4.2 - Appendix E	- Informs *public* that construction of project has been completed	To be sent to: - All those who expressed an interest in the project	Notice/documentation to be sent to CO and MOE Region Office at time of issuance to public.
a) Community Liaison Committee(CLC) Report (if applicable)	- Section 4.1.5 - Appendix H - Appendix I	- Provides CLC an opportunity to comment on the effectiveness of the Class EA process for meeting *public* concerns and identifying possible solutions. - Report completed after notice of project completion	Committee may include representatives from: contact group, local landowners, members of the general *public,* interest groups, agencies, etc.	If report completed, CO requests that it be sent to CO at time of issuance to contribute to Section 1(ii) of Annual Effectiveness Monitoring Report.
b) Post Construction Monitoring Report	- Section 3.9.2 - Figure 1C	- Reports on *monitoring* program outlined in approved project. - Used to	To be sent to: - All those who expressed an interest in the project	Conservation Authority encouraged to transfer new knowledge obtained through Post Construction Effects Monitoring Reports to all Conservation

Notification & Documentation Requirements	Reference in 2002 Class EA document	Explanation	Public Notification Requirements	Notification/ Documentation Requirements to CO and MOE
		evaluate success of the project as well as mitigative techniques and enhancement features. - To be prepared within one year of project construction unless approved project's *monitoring* program specifies otherwise - Report submitted in conjunction with notice of project completion		Authorities
c) Proponent Conservation Authority Evaluation Form – Part B	- Section 3.72 - Section 3.92 - Appendix F	- Provides CO with a summary of Conservation Authority's satisfaction with the various stages of the Class EA planning and design process - Results used in CO's Annual Effectiveness Monitoring Report and the Five Year Review	None	Proponent Conservation Authority Evaluation Form – Part B to be submitted to CO within 30 days of "Notice of Project Completion"

5.0 PROVISION FOR PHASING IN OF ONGOING UNDERTAKINGS

Conservation Authorities cannot suspend work on *flood* and *erosion* control projects, while awaiting completion of this Class EA. Where such works have been identified as necessary, Conservation Authorities have been following the requirements of the 1993 Class EA.

Accordingly, prior to the date of the Minister of Environment's approval of this Class EA, any Conservation Authority which has complied with the 2009 Class EA's planning and design process, up to the point in Phase 3 when the preliminary preferred solution was selected, may continue to do so according to the 2009 Class EA. As with other Class EA documents, these provisions shall apply only for a period of five years from the approval of this document. If construction has not commenced within five years from the approval of this document then the Conservation Authority must comply with the planning and design process of this Class EA.

6.0 DURATION OF PROJECT APPROVALS

It is recognized that for a variety of reasons, considerable time may lapse between the completion of the planning and design process of the Class EA (i.e. issuance of the Notice of Project Approval) and the implementation of the undertaking. During such a delay, the proposed solution may no longer retain validity or site conditions may change. Therefore, as with other Class EA documents, if a Class EA project has been approved, but construction has not been initiated within five years of that project's approval, the project shall be reviewed in accordance with the planning and design process of this Class EA, and new documentation shall be prepared.

7.0 PROVISION FOR CHANGING PROJECT STATUS (PART II ORDER)

It is recognized that the planning and design process, as outlined, is one which allows for concerns to be identified and resolved through the course of the project's planning. In some circumstances, however, it is possible that issues may be raised during *public* review of a project that cannot be easily accommodated. In cases where concerns are raised it is the Conservation Authority's obligation, as *proponent*, to use all reasonable means available to them to resolve these concerns. In circumstances where *interested persons*, *Aboriginal Communities*, or government agencies feel that these efforts have not been made, they may seek to have the proposed undertaking made subject to a more rigorous planning, design and documentation procedure. In the case of an undertaking for which a PP was prepared for example, a Conservation Authority may volunteer to prepare an ESR to address the concerns of the *public/agencies.*

The Part II Order is the legal mechanism whereby the status of an undertaking can be elevated from an undertaking within a Class EA to an Individual Environmental Assessment. According to section 16 of the *EAA*, the Minister of the Environment or delegate may by order require a *proponent* to comply with Part II of the *EAA* before proceeding with a proposed undertaking to which a Class EA would otherwise apply. It is the responsibility of the Conservation Authority to advise the *public* of their right to request a *Part II Order* in *public* notifications (see Appendix E). Any *interested persons*, *Aboriginal Community*, or government agency may request the Minister of the Environment or delegate to issue a *Part II Order* within the *public* review period for a PP, ESR or an Addendum.

The purpose of this Section is to outline the details surrounding a *Part II Order* request:

1. An *interested person, Aboriginal Community***,** or government agency with a concern about a project would bring the concern to the attention of the Conservation Authority.

2. If the concern cannot be resolved by any means employed by the Conservation Authority and the Community Liaison Committee, the *interested persons*, *Aboriginal Community***,** or government agency may formally request that the Conservation Authority submit the undertaking to a more rigorous review (i.e. Individual environmental assessment).

3. If the Conservation Authority considers elevation of the undertaking's status to be inappropriate and the *interested persons, Aboriginal Community* or government agency with the concern, wishes to pursue the issue, he/she may request within 30* days of the "Notice of Filing" date that the Minister of the Environment issue a *Part II Order*.

   The request to issue a *Part II Order* must be made in writing to the Minister of the Environment or delegate, be received by the ministry within the 30* day review period following issuance of the Notice of Filing, and must address the following issues as they relate to the identified concerns with the potential *environmental effect*s of the project or the planning process followed**:**

   - project name and Conservation Authority must be clearly outlined;

* 15 days in the case of "Notice of Addendum"

- environmental impacts of the project and their significance;
- the adequacy of the planning process;
- the availability of other *alternatives* to the project **(**where appropriate as some projects may not have any alternative);
- the adequacy of the *public consultation* program and the opportunities for *public* participation;
- the involvement of the requester in the planning of the project;
- the nature of the specific concerns which remain unresolved;
- details of any discussions held between the requester and the Conservation Authority;
- the benefits of requiring the Conservation Authority to undertake an individual environmental assessment**;** and,
- any other important matters considered relevant.

The requester shall forward a copy of the request to the Conservation Authority and the Environmental Approvals Branch at the same time as submitting it to the Minister of the Environment or delegate. Please note that ALL personal information included in a submission - such as name, address, telephone number, and property location – unless stated otherwise in the submission, will be collected and maintained by the MOE under the authority of the *EAA*, for consultative purposes AND for the purpose of creating a record that is available to the general *public*. The collection, use and dissemination of this information are governed by the Freedom of Information and Protection of Privacy Act.

4. The EAB will advise the Conservation Authority and CO within 10 working days of the receipt of the request by an *interested persons*, *Aboriginal Community*, or government agency pursuing a *Part II Order*. The Conservation Authority has the option of advising the *Director* of the EAB in writing if they are prepared to carry out an *Individual Environmental Assessment*. This should be done within one week of being advised that there has been a *Part II Order* request. The *Director* of EAB would then advise the requester that the *Individual Environmental Assessment* will be required. This would then negate the need for further review of the *Part II Order* requests by EAB.

The review of any *Part II Order* requests by EAB will commence after end of the 30* day review period following issuance of the Notice of Filing, and upon receipt of all necessary and satisfactory information from the requester, the *proponent* Conservation Authority, other government agencies and/or *interested persons*.

The EAB may consult with other government agencies and/or other *interested persons* during the review of a *Part II Order* request. The EAB may also request additional documentation from the Conservation Authority. If there are critical deficiencies in the documentation submitted by the *proponent*, the EAB may require the *proponent* to submit additional information. The Conservation Authority will need to respond to the issues raised and provide a written record of their responses to the EAB. Conservation Authorities will also need to provide information on the Aboriginal *consultation* (i.e. *consultation* reports) to EAB. The Conservation Authority shall provide the information within the requested time frame. Within a minimum target of 45 days of receiving all information, the EAB will review the information and prepare a recommendation for the Minister of the Environment or delegate's consideration. The EAB will focus on the issues associated with the request, the review of the documentation, and the Conservation Authority's response. EAB will also review the *proponent*'s Aboriginal *consultation* activities undertaken in accordance with Section 4.1.1. and shall make a recommendation to the Minister of the Environment.

Negotiations should continue between the requester and the Conservation Authority to successfully resolve the concerns locally. To provide this opportunity, the 30* day review period may be extended for a period of time that is mutually acceptable between the Conservation Authority and the requester, and with notification to the

* 15 days in the case of "Notice of Addendum"

EAB. Accordingly, the start of timelines for the review of any *Part II Order* requests by EAB will be deferred. If the Conservation Authority satisfies the concerns of the requester, it is the requester's responsibility to withdraw the request for a *Part II Order.* Such withdrawals should be in writing to the Minister of the Environment or delegate and should be copied to the Conservation Authority. The *Director* of the EAB may accept and may act upon such withdrawals on behalf of the Minister of the Environment.

5. The Minister of the Environment or their delegate considers information submitted by the Conservation Authority**,** the person requesting the *Part II Order* and any *interested persons, Aboriginal Community,* or government agency the Minister of the Environment or delegate chooses to consult before making a decision. The Minister of the Environment or delegate will also consider the evaluation criteria for *Part II Order* requests found in subsection 16(4) of the Environmental Assessment Act. The Minister of the Environment or delegate will make a decision to do one of the following:

    1. Make a *Part II Order* (to require an individual EA)
    2. To refer the request to *mediation* before making a decision
    3. To deny the request
    4. To deny the request with conditions
    5. Advise the *proponent* to redo its project planning where there is evidence that the project has not been prepared in accordance with the Class EA.

   As defined under subsection 16(4) of the *EAA*, in considering a request, the Minister of the Environment or delegate shall give consideration to, but not be limited to, the following issues:

    - the purpose of the *EAA*
    - extent and nature of *public* concern
    - potential for significant adverse *environmental effect*s
    - need for broader consideration of *alternatives* by the Conservation Authority
    - consideration of urgency
    - participation of the requester in the planning process
    - nature of request (i.e. substantiation of claims with regard to identification of factors
    - that suggest that the proposed undertaking differs from other undertakings in the class to which the Class EA applies)
    - degree to which *public consultation* and dispute resolution have taken place
    - any reasons given by a person who requests the order
    - the mediator's report, if any
    - the timeliness of the request and the timeliness of the requester raising the issues and/or concerns with the Conservation Authority; and,
    - any other important matters as the Minister of the Environment considers appropriate

6. If the Minister of the Environment or delegate agrees to issue a *Part II Order,* then he/she gives notice, with reasons, to the Conservation Authority, CO, and the person requesting the *Part II Order,* and to any other *interested persons, Aboriginal Community,* or government agency as the Minister of the Environment or delegate considers appropriate. The Conservation Authority shall then adhere to the Order if it wishes to pursue implementation of the undertaking.

7. If the Minister of the Environment or delegate refers the matter to *mediation* then he/she gives notice, with reasons, to the Conservation Authority, CO, and the person requesting the *Part II Order,* and to any other *interested persons, Aboriginal Community,* or government agency as the Minister or delegate considers appropriate. Provisions of section 8 of the *EAA* will apply including the appointment, by the Minister of the Environment, of one or more neutral persons to act as mediators, a report by the mediator to the Minister of the Environment within 60 days of appointment, and payment of the fees and reasonable expenses of the mediators by the *proponent*.

8. If the Minister of the Environment or delegate denies the *Part II Order* request, he/she gives notice, with reasons, to the person requesting the *Part II Order,* the Conservation Authority CO and to any other *interested persons, Aboriginal Community,* or government agency as the Minister of

the Environment or delegate considers appropriate. The Conservation Authority then continues to plan and implement the undertaking under this Class EA. Any conditions which the Minister of the Environment or delegate might apply to the decision to deny the *Part II Order* request must be adhered to by the Conservation Authority when implementing the project.

The *Part II Order* request may be initiated during the 30 day *public* review period following the filing of the PP or ESR. It is expected, however, that *interested person*, *Aboriginal Community*, or government agency having a concern would bring this to the Conservation Authority's attention early in the planning and design process when the Conservation Authority has maximum flexibility to deal with the concern. The provisions for *public* participation and notification, set out in this Class EA, are intended to facilitate such early identification of concerns.

8.0 OPERATION, MAINTENANCE OR RETIREMENT

Conservation Authorities shall endeavour to review all opportunities for incorporating environmental enhancements as part of project operations, maintenance or retirement activities (e.g. using materials of equal or better properties, etc.).

For the purposes of this Class EA, the term "operation" refers to operating a structure where the purpose, use, capacity and location remain the same as approved under this Class EA or its predecessor. In this case, operation is considered to be a part of the approved project and is not independently subject to the planning and design process of this Class EA.

The term "maintenance" refers to the upkeep, repair and the replacement and/or upgrading of a structure, or its performance where the objective, and application remain unchanged, and the volume, size or capability of the structure does not change from that approved for the undertaking under this Class EA or its predecessor. In this case, maintenance is considered to be a part of the approved project and is not independently subject to the planning and design process of this Class EA.

The approval under the *EAA* as a maintenance activity does not preclude all other forms of approval necessary. A maintenance activity of special concern is dredging to maintain the efficiency of a structure. Various approvals may be required for dredging, transport and disposal from the MOE and other agencies and government bodies having *jurisdiction*. For dredging activities, as a minimum, the staff in the local Regional Office of the MOE will be contacted for *consultation*.

"Retirement" refers to a situation in which the purpose or use of a structural or capital work as approved under this Class EA or its predecessor, is no longer necessary and its operation is cancelled. Some retirement activities may involve the demolition of a structure or a change in the purpose, use, capacity or location of a structure which could result in potentially significant *environmental effect*s. Such retirement activities shall be planned in accordance with the planning and design process. "Retirement" of activities which only involve relinquishment of rights, such as operating or maintenance responsibilities, shall be completed without following the planning and design process of the Class EA, provided that the party assuming responsibility undertakes to continue to operate and maintain the structure or facility in the same fashion as in the past (i.e., the activities fall within the definition of operations/maintenance). Where a change in operation or maintenance is anticipated by the second party, the transfer shall not be made unless the second party meets all necessary requirements under the *EAA*.

If works are proposed that do not fall within the definitions of "operation," "maintenance", and "retirement" as above, they will be considered as new undertakings and subject to the planning and design process described in this Class EA.

9.0 EMERGENCY MEASURES

In the case of a natural disaster such as *flood*ing, sudden or accelerated soil *erosion* or slippage, situations may arise where a Conservation Authority must take immediate action to safeguard human life and mitigate damage to buildings, structures, or services. When such emergencies arise, necessary remedial measures shall be undertaken immediately.

The Conservation Authority shall notify the affected members of the *public* and affected government agencies, including the nearest Regional and District Office of the MOE and the EAB of the Ministry that emergency measures are about to be undertaken. If this is not possible, the appropriate contacts shall be made as soon as possible after the emergency has been addressed.

It is also the responsibility of the Conservation Authority to forward a written report of the emergency to the nearest Regional and District Office of the MOE, and the EAB of the MOE, within 14 working days following completion of actions taken to alleviate or
correct the emergency situation.

The written report shall describe the following:

- the location and nature of the emergency;
- the physical, biological, socioeconomic and/or cultural effects of the emergency;
- actions taken to resolve the emergency;
- effectiveness of the actions taken (stop-gap, longer term, etc.) and;
- anticipated future remedial works required, if any.

Where further remedial work is necessary to ensure effectiveness of these emergency measures, the planning and design process described in this Class EA shall apply. However, it is possible that an emergency-specific planning process to meet time concerns may evolve from discussions with affected parties or agencies, the nearest MOE Regional Office and the EAB of the MOE.

10.0 CLASS ENVIRONMENTAL ASSESSMENT EFFECTIVENESS MONITORING AND REPORTING

It shall be the responsibility of the Conservation Authorities collectively, through CO, to monitor the effectiveness of the Class EA process to ensure sound environmental planning for remedial *flood* and *erosion* control projects and to ensure that the Class EA remains current and relevant.

The Class EA process is a self assessment process and it is the responsibility of the Conservation Authority project manager to ensure that the planning process as set out in the Class EA document is undertaken. If concerns arise regarding the effectiveness of the Class EA process in addressing such things as, but not limited to, protection of the *environment* or participation in the process then the Conservation Authority must raise these concerns with CO for collective discussion and resolution. If deficiencies are noted, CO shall undertake to address the issue by amending the Class EA document (Section 11.0) either immediately or at the time of the five year review.

On an annual basis, CO will compile information on the projects that have been undertaken in accordance with this Class EA. An Annual Effectiveness Monitoring Report will be produced to determine:

- the number and types of projects initiated, planned and/or implemented in accordance with this Class EA;
- the problems that are experienced at the Class EA project level; and,
- the degree of effectiveness of the Class EA planning and design process in enabling environmental protection and encouraging participation.

The effectiveness of the Class EA will be identified by Conservation Authorities directly with CO and/or

through the "Proponent Conservation Authority Evaluation Form" (Appendix F). CO will submit the Annual Effectiveness Monitoring Report to the MOE's *Director* of the EAB ("*Director*"). This annual report will be submitted no later than January 31 for projects initiated, planned and/or implemented during the previous calendar year. The annual report will be made *publicly* available by posting on CO website. CO will provide MOE with the following information:

- a summary table listing all projects initiated, planned and/or implemented under the Class EA during the previous year. The summary table will include: the Conservation Authority*, location of the undertaking*, name of undertaking*, year initiated*, status (Notice stage: Intent-I; Filing-F, date; Addendum-ADD, date; Approval-A, date; Completion-C, date)**, the documentation level (i.e. PP or ESR)***, *Part II Order* Requests (y/n), Outcome *Part II Order* Request (granted-G, denied-D, denied with conditions- DWC)****.
- a statement indicating those projects undertaken using the Class EA for which *Part II Order* requests were made to the Minister of the Environment and the *proponent*; and of these, the number and percentages of requests that were granted, denied or denied with conditions
- identification of any problems, changes or actions that need to be considered in the five year review, or sooner and a statement of effectiveness of the Class EA in providing an effective and efficient planning process and in protecting the *environment* based upon:
  - responses to the "Proponent Conservation Authority Evaluation Form" (Appendix F);
  - documentation of any implementation concerns or improvements brought to CO's attention in the previous year which may require *amendments*;
  - assessment of conditions imposed on a project as part of the Minister of the Environment's denial of a *Part II Order* request (Section 7.0, #8).
- a compliance statement for the Class EA:
  - summarizing statements of compliance made by Conservation Authorities in the "Proponent Conservation Authority Evaluation Form (Appendix F)
  - addressing any terms and conditions in the *EAA* Notice of Approval (Order in Council) of the Class EA. A copy of the Notice of Approval will be attached.
  - addressing any "Notice of Amendment" issued by the Minister of the Environment (Section 11.0).

In light of the fact that this Class EA is used infrequently (i.e. few projects per year) common process inefficiencies and other problems may not be identifiable at the end of a one-year period. CO will conduct a five-year review of the Class EA, for the lifetime of the approval, which will provide a larger sample of projects upon which to base recommendations (Section 11.3).

Conservation Authorities will retain on file copies of all documentation required for an undertaking under this Class EA for the purposes of the five year review described in Section 11.3. This five year review document will be posted to CO's website.

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* as obtained from Conservation Ontario's copy of the project's Notice of Intent (Appendix E)
** as obtained from Conservation Ontario's copy of the project's Notices (Appendix E)
***as obtained from Conservation Ontario's copy of the project's Notice of Filing (Appendix E)
**** as obtained from Conservation Ontario's copies of Part II notices from MOE (Section 7.0, #4, 6, 7, and 8)

11.0 CLASS ENVIRONMENTAL ASSESSMENT AMENDING PROCEDURE

The purpose of the amending procedure is to allow for modifications to the approved Class EA after experience with its application has been gained. The types of *amendment*s include major or minor *amendment*s to the Class EA. The type of *amendment* procedure to be used is dependent on the nature of the *amendment*s.
CO, the MOE or any other government ministries and agencies, members of the *public, Aboriginal Communities* and organizations, and other *interested persons* or organization, who feels that an *amendment* to the Class EA should be made, will bring the particular concern to the attention of the Minister of the Environment (for major *amendment*s) or the *Director* of the EAB (for minor *amendment*s). In doing so, they shall set out the specific concern, the reason for that concern, and the proposed change. An outside party should consult with CO before submitting a proposed *amendment*, and should also provide CO with a copy of the proposed *amendment*.

11.1 Minor Amendments

Minor *amendment*s are those *amendment*s that would not substantially change this Class EA. These may include:

- Administrative corrections and clarifications;
- Minor updates (i.e. reference to a guideline);
- Changes to procedures that, in the opinion of the *Director* of the EAB do not affect the intent of the Class EA.

The *Director* of EAB is the approval authority for minor *amendment*s. Other parties may request a minor *amendment* by submitting such a request to CO for consideration.

CO will notify the *Director* of the EAB of proposed *amendment*s to the Class EA and provide the *Director* with the description and rationale for each *amendment*. The *Director* of EAB will reach the opinion as to whether the proposed *amendment* is considered to be valid and minor. The *Director* shall provide notice of the decision to CO. The *Director* must also state reasons for the decision.

Given the limited scope and administrative nature of minor *amendment*s to this Class EA, they will be approved through an abbreviated process that will not require *public* notice.

11.2 Major Amendments

Major *amendment*s would substantially changes this Class EA or have significant effect on how the Class EA is carried out. This could include changes to:

- The range and type of projects with the Class EA.
- The essential elements of the documentation processes and provisions found in Section 3.7.2 of this Class EA (i.e. PP or ESR).

The Minister of the Environment is the approval authority for major *amendment*s. Other parties may request a major *amendment* by submitting such a request to CO for consideration. CO will notify the *Director* of the EAB of proposed *amendment*s to the Class EA and provide the *Director* with the description and rationale for each *amendment*. If the proposed *amendment* is considered to be valid and major and in the opinion of the *Director* of EAB is reasonable and appropriate, he or she shall issue a *public* Notice of Proposed Amendment and allow for *public* and agency review. Interested persons, *Aboriginal Communities* and other interested parties will be invited to submit comments to the *Director* of the EAB copied to CO for a 45 day period. Based upon the comments received and further *consultation* with CO, the Minister of the Environment or delegate may approve or deny the *amendment*s, with or without conditions If the *amendment* is approved by the Minister of the Environment, he or she shall issue a Notice of Amendment to all parties who provided comments or indicated interest in the *amendment*.

11.3 Five Year Review of Class Environmental Assessment

Based upon the Five Year Review Report, CO will make a written submission to the *Director* of the EAB recommending one of the following:

a) Consolidate the recommended *amendment*s and amend the Class EA (following procedures described in Section 11.0)
b) Prepare a wholly new Class EA (following full review and approval process under Environmental Assessment Act)
c) Continue use of this Class EA

PART II: DESCRIPTION OF UNDERTAKINGS WITHIN THE CLASS

There are four situations in which remedial *flood* and *erosion* control projects may be undertaken. These are:

I *Riverine* Flooding

II *Riverine* and Valley Slope Erosion

III Shoreline Flooding

IV Shoreline Erosion

This section describes the alternative methods that may be considered for carrying out a specific remedial undertaking once it has been determined that nonstructural Conservation Authority program options will be ineffective in addressing the identified problem. The *alternatives* are not necessarily interchangeable. In some cases one or more of the *alternatives* may be inadequate and several of the *alternatives* may be required in combination to solve the problem.

I RIVERINE FLOODING

In a *riverine* situation where flooding is occurring, there are several *alternatives* to address the problem. These include, but are not limited to:

i) Prevent Entry of Floodwater

To prevent floodwater from entering a specific area, *berms* (*dike*s) may be installed.

- **Berming**
  Generally constructed by mounding earth, and seeding or planting to promote soil stabilization, *berm*s act as a barrier to the entry of floodwater on a property. The height is selected to protect to the *design storm*. There may be passive recreational trails that may already exist in the area, which the Conservation Authority may wish to maintain as appropriate. These existing trails may have the potential to be of cultural heritage value or interest.

ii) Modify River Ice Formation and/or Break-up Processes

Where high water due to the formation and deposition of *frazil ice* or ice jams presents a *risk* of *flood* damages, it may be possible to modify the ice formation and break-up process to reduce the *risk*. Ice control booms can be effective to promote the formation of an earlier ice cover on a river, reducing the area of open water and *frazil ice* generation. Ice booms can also be used to hold an ice cover in place during break-up, so as to reduce the total volume of ice moving downriver into locations which are prone to the formation of ice jams.

iii) Increase Hydraulic Capacity of Waterway

In the case where the *floodplain* has been historically developed it may be necessary to alter the flow through the *channel* during *flood* events. One way of doing this is to increase the *hydraulic* capacity of the waterway, thereby allowing lower levels of water to overflow onto the *floodplain.* This may be accomplished using the following methods:

- **Dam Decommissioning**
  Many dams in Ontario are nearing the end of their life expectancy and in many instances the purpose for which they were built no longer applies. Issues surrounding structural integrity and stability may require

that the dam be decommissioned in order to address safety concerns, eliminate long-term operating and maintenance costs and enhance local and downstream environmental conditions. Wherever possible, the principles of natural *channel* design should be employed when designing the post-dam condition of the watercourse. Stream corridor function should be recognized as fundamental to the restoration of the system to create a self-sustaining system that is in dynamic equilibrium.

- **Bridge and Culvert Alterations**
  Bridges or culverts in smaller watercourses may significantly reduce the *hydraulic* capacity of the waterway. Where practical, the principles of natural *channel* design should be incorporated into the project. The adverse effect of these smaller structures may be eliminated by increasing the size of the waterway opening.

- **Bank Regrading**
  Regrading may be used to widen the *channel*, thereby increasing its capacity during flooding events. Regrading in this case would be designed to produce a *stable slope*. Further forms of protection may be necessary to ensure against *erosion*.

- **Increase Bank Height**
  Hydraulic capacity of the waterway can be increased by increasing bank height. Bank height can be increased by adding a *berm* on the top of the existing bank or by installing concrete or *sheet pile* walls. Local drainage must be accommodated in the design.

- **Revetments**
  Revetments refer to a bank protection or retaining structure located at the land/water interface. These protect the *channel* of the waterway from additional *sediment* load and maintain *channel capacity*. These can be constructed of log cribs, *rip rap, armour stone, gabion* baskets, concrete or *sheet pile* walls or interlocking brick.

- **Channel Realignment**
  Relocation of the waterway may be used to increase its capacity. The new *channel* is designed and constructed to hold a higher capacity and then water is relocated to this new route.

- **Dredging**
  Excavation of accumulated *sediments* from the bottom of the waterway will increase the *hydraulic* capacity of the channel. Dredged material should be removed from the floodplain.

iv) Divert Water From Area

Potentially damaging floodwater is intercepted at a point upstream of the floodprone reach and routed to a point remote from the floodprone area. This may be accomplished by construction of a:

- **Bypass Channel**
  A bypass *channel* is created which normally contains water only when the capacity of the natural waterway is breached. This *channel* then carries water away from the floodprone area.

v) Increase Upstream Storage

In the case where flooding damages are occurring in a *river reach* it may be possible to reduce this damage by detaining floodwater upstream. This may be accomplished by using one of the following methods.

- **Bridge and Culvert Alterations**
  In smaller watercourses, these openings may be used to restrict flow through a floodprone section. Water may be held upstream or diverted from the main *channel* into a bypass channel.

- **Dry Dams**
  Dry dams are used to retain water only during a specified design high flow event. During periods of normal flow, the *reservoir* remains empty.

- **Weirs**
  Weirs are water control structures which discharge water flow over the crest height. Flows in this case cannot be manipulated.

- **Wet Dams**
  Water control structures fitted with control gates or other control mechanisms that allow adjustments to be made to control the quantity of flow. In flooding events water is held upstream from the floodprone area. These dams retain some volume of water throughout the year.

II RIVERINE AND VALLEY SLOPE EROSION

In a *riverine* situation where *erosion* is occurring, there are several *alternatives* to address the problem. These *alternatives* include, but are not limited to:

i) Reduce Erosive Energy of Channel Flows

Protection of eroding banks can be achieved by reducing the erosive energy of the waterway. This reduction in the waters energy can be achieved by the following means.

- **Instream Obstacles**
  In situations where drop structures are not possible because of restrictions to fish passage, instream obstacles may be placed over a longer distance of stream to reduce the water's energy. Generally large boulders or *armour stone* are used to accomplish this objective**.**

- **Decrease Gradient**
  Energy from the waterway may be reduced by decreasing the gradient within the reach where *erosion* is occurring. To decrease the gradient the length must be increased. The addition of meanders to the watercourse is generally used to accomplish this.

- **Drop Structures (Weir, check dam, rock ramps)**
  On smaller streams it is sometimes feasible to reduce the erosive energy of flowing water. This can be accomplished by constructing drop structures, which consist of one or a series of *erosion*- resistant steps which dissipate energy.

ii) <u>Protect From Erosive Energy of Channel Flows</u>

When a bank is experiencing *erosion* it may be possible to provide protection from the erosive energy by applying treatments to the land/water interface**.** Where practical, the principles of natural *channel* design should be incorporated into the project.

- **Soil Bioengineering**
  Vegetation can be used to stabilize soil, slow *runoff* and dissipate its erosive energy and filter *sediment* from *runoff*. Soil Bioengineering combines live plant materials with structural measures in order to stabilize the *slope* face and toe. The Conservation Authority shall endeavour to use plant species which are native and compatible with the local *flora*.
  Temporary measures will be used to ensure that the site is not washed out under *flood* conditions prior to the establishment of a protective root system and vegetation ground cover.

- **Deflectors**
  Deflectors are used to direct water away from banks which are eroding. They are built instream generally from timber or through placement of large boulder material. The Conservation Authority shall endeavour to avoid the use of chemically treated timber in favour of untreated rot resistant wood (e.g. western red cedar, hemlock, white cedar, douglas fir, etc.) if
  a longer service life is required.

- **Revetments**
  Revetments refer to a bank protection or retaining structure located at the land/water interface. These can be constructed of *rip rap, armour stone, gabion* baskets, concrete or *sheet pile* walls or interlocking brick.

- **Channel Realignment**
  Relocation of the stream *channel* may be necessary where lateral bank cutting is critical and *slope* stabilization impractical. *Channel* realignments should be designed with consideration for natural *channel* processes including *sediment* transport and fluvial geomorphology.

iii) <u>Stabilize Bank or Slope</u>

In order to provide a stable *slope* and deter further *erosion* of the bank above the low flow channel, the following methods may be used**.**

- **Soil Bioengineering**
  Vegetation can be used to stabilize soil, slow *runoff* and dissipate its erosive energy and filter *sediment* from *runoff*. Soil Bioengineering combines live plant materials with structural measures in order to stabilize the *slope* face and toe. The Conservation Authority shall endeavour to use plant species which are native and compatible with the local *flora*.
  Temporary measures will be used to ensure that the site is not washed out under *flood* conditions prior to the establishment of a protective root system and vegetation ground cover.

- **Improve Internal Drainage**
  In situations where internal drainage is causing bank *erosion* and instability, this drainage can be improved through the use of french drains, interceptor drains, or tile drains.

- **Improve Surface Drainage**
  Surface drainage on a *slope* can be improved by either directing water away from the *slope*, or by providing an *erosion* resistant swale which directs the water down the *slope* in a controlled manner.

- **Regrading of Slope**
  In cases where the bank is unstable, the *slope* may be adjusted through filling and/or cutting to a stable angle. If the *slope* is susceptible to deep-seated failure, a toe *berm* may also be necessary. This is often combined with an internal drainage system and *soil bioengineering.*

III SHORELINE FLOODING

Alternative remedial measures suitable to protect from shoreline flooding include preventing entry of floodwaters at a particular site, as well as reducing the wave uprush elevations by reducing wave energy offshore.

i) Prevent Entry of Floodwaters

The structural protection that can be built to hold the floodwaters back is an *impermeable dike, seawall or revetment.* The elevation of such a structure must take into account the increase in the water level and the wave action during an extreme storm event.

The following methods can be used to prevent the inundation of floodwaters.

- **Artificial Nourishment (Beach, Berm and Dune)**
  This method of *flood* control allows the natural features to remain as effective wave energy dissipaters. *Artificial nourishment* or strengthening provides natural material to areas where there is a deficiency in the *sediment* supply. It usually requires continuous applications unless combined with other protection methods which protect from *erosion* processes.

- **Dikes**
  The *dike* is typically built in the water to provide protection around a low-lying area against the inundation of floodwaters during extreme events. The purpose of the structure is to hold the land/water boundary and is not designed to protect the neighbouring shoreline

- **Seawalls**
  The *seawall* can be used for *flood* protection of the upland area. It is a hard, impermeable structure, built parallel to the *shore, designed to withstand extreme wave action.* It is often built of *armour stone* or concrete, at the land/water interface. Seawalls protect the area behind the structure and not the adjacent areas.

- **Revetments**
  The *revetment* can be used for *flood* protection of the upland area. It is a method of protection which prevents the waves or currents from reaching the embankment, scarp or shoreline behind the structure. They are typically built at the land/water interface and are usually *slope*d structures built of *armour stone* or *rip rap.* Revetments protect the area behind the structure and not the adjacent areas.

ii) Reduce Wave Energy

The wave action that reaches the shoreline can be reduced by building coastal structures (*offshore* and submerged *breakwater*s or barriers) but the *still water level* can not be reduced. Therefore, the structures must be designed for a combination of both the extreme water elevation and the wave action rather than just the high water level as is done on the *riverine* systems. The following list contains some of the common

methods used to reduce the incoming wave energy. One or a combination of these may be used.

- **Artificial Nourishment (Beach, Berm, Dune)**
  This method of *flood* control allows the natural features to remain as effective wave energy dissipaters. *Artificial nourishment* or strengthening provides natural material to areas where there is a deficiency in the *sediment* supply. It usually requires continuous applications unless combined with other protection methods which protect from *erosion* processes.

- **Offshore (Detached and Continuous) Breakwaters**
  *Offshore breakwater*s are barriers which are built to protect the area behind the structure by the promotion of a *beach* system which dissipates the wave energy. *Offshore breakwater*s are built a distance offshore and parallel to the shore. They can be continuous or detached. Islands are a variation of *offshore breakwater*s. They reduce but do not eliminate the wave action and create a calm area behind the structure. The wave diffraction is used to assist holding a *beach* in the *lee* of the structure.

- **Offshore Low-Crested Breakwaters**
  Low-crested rock structures are built offshore, parallel to the shoreline. Energy is lost on the front side as waves overtop the structure. The top and backside of the structure must be designed to withstand the energy of the overtopping waves. There are three main types of structures; the reef, statically stable low-crested and submerged *breakwater*.

  The reef *breakwater* consists of a pile of stones that are dumped leaving the waves to shape the material. The statically stable low-crested *breakwater* is not designed for constant overtopping, but does allow energy to dissipate and pass over the top of the *breakwater*. The submerged *breakwater* is designed for waves to constantly overtop the structure.

IV SHORELINE EROSION

Alternative remedial measures suitable to address shoreline *erosion* include; reducing wave energy and enhancing natural processes, protecting from wave energy and stabilizing the *slope* through drainage or grading improvements.

i) Reduce Wave Energy and Enhance Natural Processes

Various methods can be used to encourage development of a *beach* system. A new *beach* system can be developed through structural means or the existing *beach* system can be enhanced with *artificial nourishment.* The following list contains some of the common methods used to reduce the incoming wave energy and enhance the natural processes.

- **Artificial Nourishment (Beach, Berm and Dune)**
  This method of *erosion* control allows the natural features to remain as effective wave energy dissipaters. *Artificial nourishment* or strengthening provides natural material to areas where there is a deficiency in the *sediment* supply. It usually requires continuous applications unless combined with other protection methods which protect from *erosion* processes.

- **Headland/Beach System**
  Headland/*beach* systems use large, armouring or concrete, hard points to anchor *beach*es or bay areas. They retain a *reservoir* of material in their *beach*es for use during an extreme storm event. The wave diffraction around the *headlands* is used to hold the *beach* in the *lee* of the structure. The *headlands* consist of sloping structures with a rubble core, *rip rap* layers and *armour stone* on the external sides.

  Beach nourishment will be used to *fill* the area with either sand or cobble material. If *artificial*

nourishment is not used to *fill* the *beach* areas then natural drift material may be taken out of the regional system and will cause a deficiency downdrift. Depending on the wave energy and direction an equilibrium plan shape will be attained for the *beach.*

- **Offshore (Detached and Continuous) Breakwaters**
  Offshore *breakwater*s are barriers which are built to protect the area behind the structure by the promotion of a *beach* system which dissipates the wave energy. Offshore *breakwater*s are built a distance offshore and parallel to the *shore*. They can be continuous or detached. Islands are a variation of *offshore breakwater*s. They reduce but do not eliminate the wave action and create a calm area behind the structure. The wave diffraction is used to assist holding a *beach* in the *lee* of the structure.

- **Offshore Low-Crested Breakwaters**
  Low-crested rock structures are built offshore, parallel to the shoreline. Energy is lost on the front side as waves overtop the structure. The top and backside of the structure must be designed to withstand the energy of the overtopping waves. There are three main types of structures; the reef, statically stable low-crested and submerged *breakwater*.

  The reef *breakwater* consists of a pile of stones that are dumped leaving the waves to shape the material. The statically stable low-crested *breakwater* is not designed for constant overtopping, but does allow energy to dissipate and pass over the top of the *breakwater*. The submerged *breakwater* is designed for waves to constantly overtop the structure.

- **Coastal Wetlands**
  Land where the water table is at, near, or above the land surface long enough to promote the formation of wet soils or to support the growth of aquatic plants.

  Where physical conditions are suitable, creation or restoration of coastal *wetland*s should be considered in conjunction with the construction of the *offshore breakwater*s. Aquatic plants may be established to increase the productivity and diversity of these areas for aquatic organisms as well as attenuate wave energy.

- **Groynes**
  *Groyne*s are structures which are placed perpendicular to the shoreline to create an accumulation *reservoir* of material in a *beach* system to dissipate the wave energy during an extreme storm event. *Groyne*s can be *permeable* or impermeable and are commonly made of *armour stone*, concrete, timber and steel.

  Beach nourishment should be included along with the construction of *groynes* in order to minimize the up and down-drift effects of the placement of the *groyne system*. The *beach* gradient of the nourishment material should be similar to the existing material if the same *beach* profiles are desired.

ii) Protect Shore From Wave Energy

Another method of protecting the shoreline is to build structures that are able to resist the natural forces and processes. The following list contains some of the common methods used to protect the shoreline from wave energy.

- **Shore-Connected Breakwaters (Sheet-Pile, Conventional, Naturally Armouring)** *Breakwater*s are hard barriers which are built to protect land or water areas behind the structure from wave attack. The shore-connected *breakwater*s provide shelter in their *lee*, the area behind the structure. The commonly used *breakwater*s are rubble mound *breakwater*s and caisson type *breakwater*s

- **Revetments (Naturally Armouring, Armour)**
  The *revetment* can be used for *erosion* protection of the upland area. It is a method of protection which prevents the waves or currents from reaching the embankment, scarp or shoreline behind the structure. They are typically built, at the land/water interface and are usually *slope*d structures built of *armour stone* or *rip rap*. Revetments protect the area behind the structure and not the adjacent areas.

- **Seawalls**
  The *seawall* can be used for *erosion* protection of the upland area. It is a hard, impermeable structure, built parallel to the *shore*, designed to withstand extreme wave action. It is usually built of *armour stone* or concrete, at the land/water interface. Seawalls protect the area behind the structure and not the adjacent areas.

- **Jetty**
  Jetties are built at the mouths of rivers to improve navigation, stabilize and keep the *channel* entrance open. They are placed perpendicular to the shoreline in the breaker zone and can be built of *armour stone*, concrete, and steel.

iii) <u>Stabilize Bank or Slope</u>

In the coastal area, *erosion* of the bluff or bank is usually a result of wave action at the toe of the *slope* or loss of the natural protective features such as *dune*s, *berm*s and *beach*es fronting the shoreline. For this reason the forces due to the wave action must be addressed first before *slope* stability can be achieved. Therefore the *slope* stability solutions must be carried out in combination with the coastal protection measures.

The bluff/bank instability problems along the shorelines are generally the same as along the river banks. Protection of natural features such as *beach*es, *berm*s and *dune*s are necessary in order to stop *erosion* of the backshore and coast area(bluff/banks). In order to provide a stable *slope* and deter further *erosion* of the bank, the following methods may be used.

- **Soil Bioengineering**
  Vegetation can be used to stabilize soil, slow *runoff* and dissipate its erosive energy and filter *sediment* from *runoff*. Soil Bioengineering combines live plant materials with structural measures in order to stabilize the *slope* face and toe. The Conservation Authority shall endeavour to use plant species which are native and compatible with the local *flora*. Temporary measures will be used to ensure that the site is not washed out under *flood* conditions prior to the establishment of a protective root system and vegetation ground cover.

- **Improve Internal Drainage**
  In situations where internal drainage is causing bank *erosion* and instability, this drainage can be improved through the use of french drains, interceptor drains, or tile drains.

- **Improve Surface Drainage**
  Surface drainage on a *slope* can be improved by either directing water away from the *slope*, or by providing an *erosion* resistant swale which directs the water down the *slope* in a controlled manner.

- **Regrading of Slope**
  In cases where the bank is unstable, the *slope* may be adjusted through filling and/or cutting to a stable angle. If the *slope* is susceptible to deep-seated failure, a toe/gravity *berm* may also be necessary. This is often combined with an internal drainage system and *soil bioengineering*.

APPENDIX A

TABLE A: IDENTIFYING EXPERT FEDERAL AUTHORITIES

The following reference information is offered to assist *proponent*s in establishing contact with appropriate review agencies when certain situations are identified which result in various types of environmental impacts. For multi-jurisdictional Environmental Assessments (projects that require Federal EAs concurrently with a Provincial Class EA), the Canadian Environmental Assessment Agency acts as the Federal Environmental Assessment Coordinator to coordinate the participation of federal authorities among themselves and with other jurisdictions and government, using specific duties and powers outlined in the CEAA. The examples which follow are not expected to be comprehensive and the *proponent* is responsible to determine the appropriate agency to contact when different situations arise and different environmental impacts are identified.

ENVIRONMENTAL ISSUES	EXPERT FEDERAL AUTHORITY
1. Environmental Effects (from definition of "environment" in the *Canadian Environmental Assessment Act*)	
Changes in the environment:	
2. general	Environment Canada
3. air	Environment Canada
4. land	Environment Canada Natural Resources Canada
5. wildlife	Environment Canada
6. fish and fish habitat	Fisheries and Oceans Canada
7. soil	Agriculture Canada
8. forest resources	Natural Resources Canada
9. humans	Health Canada
10. water	Environment Canada Fisheries and Oceans Canada Natural Resources Canada
Related changes in:	
11. sustainable use	Environment Canada
12. human health conditions	Health Canada
13. socio-economic conditions	Agriculture Canada Environment Canada Fisheries and Oceans Canada Health Canada Aboriginal Affairs and Northern Development Canada Industry, Natural Resources Canada
14. cultural resources	Canadian Heritage Aboriginal Affairs and Northern Development Canada
15. aboriginal resource use	Aboriginal Affairs and Northern Development Canada
16. aboriginal land use	Health Canada
17. historical, archaeological, paleontological and architectural resources	Canadian Heritage Natural Resources Canada Public Works Canada
18. management of protected areas – national parks, national historic sites, historic rivers and heritage canals	Canadian Heritage

19. CEAA Process and Procedures	Canadian Environmental Assessment Agency Environment Canada
20. International Environmental Issues	Foreign Affairs and International Trade Canada Canadian International Development Agency

(Source: Canadian Environmental Assessment Agency)

APPENDIX B

BASELINE ENVIRONMENTAL INVENTORY

SECTION I - Location - To include the following:

- Name of Watershed and Tributary/*Shoreline Reach*
- Site location - Municipality, Lot, Concession, street name, or GIS Coordinates, to aid in identification
- Landowners - identify affected landowners, or users of property
- Local First Nation reserves or *Aboriginal Communities* in watershed or along tributary, if applicable.
- Mapping at appropriate scale e.g. 1:10,000 to locate site, and establish study area e.g. valley or shoreline system.

SECTION II - Environmental Description

The broad definition of environment, as provided in the *EAA*, must be applied. For those elements for which a given project is likely to have an impact, baseline conditions will be determined. These are outlined on the checklist provided. A photographic record of the site should be taken at this time. Where applicable, the sources of this information (e.g. individuals, groups, agencies, published literature) shall be noted.

BASELINE ENVIRONMENTAL INVENTORY CHECKLIST

Physical

Presence and Extent of:

- unique landform
- existing mineral or aggregate resources extraction industries
- Earth Science - Areas of Natural and Scientific Interest (ANSI's)
- specialty crop areas
- agricultural lands or production
- Niagara Escarpment
- Oak Ridges Moraine
- environmentally sensitive/significant areas - physical
- air quality
- agricultural tile or surface drains
- noise levels & vibration
- high/storm water flow regime
- low/base water flow regime
- existing surface drainage and groundwater seepage
- groundwater recharge/discharge zones
- littoral drift
- other coastal processes
- water quality
- soil/fill quality
- contaminated soils/sediments/seeps
- existing transportation routes
- constructed crossings (e.g. bridges, culverts)
- geomorphology
- other

Biological

Presence and Extent of:

- wildlife habitat
- habitat linkages or corridors
- significant vegetation communities
- environmentally sensitive/significant areas - biological
- fish habitat such as, spawning or feeding areas, restriction of movement, environmental conditions (e.g. flow, temperature, oxygen levels)
- species of concern (e.g. Species at Risk, Vulnerable/Threatened/Endangered Species, conservation priorities - either flora or fauna)
- exotic/alien and invasive species
- wildlife/bird migration patterns
- wildlife populations
- wetlands
- microclimate, (e.g. wind screening, snow accumulation, shading)
- Life Science ANSI's
- unique habitats
- other

Presence and Extent of:	**Cultural** • traditional land uses (e.g. harvesting) • aboriginal reserve or community • outstanding native land claim • transboundary water management issues • riparian uses (e.g. water access, navigation, boating, fishing, cottages) • recreational or tourist use of water body and/or adjacent lands (e.g. canoeing, trails) • recreational or tourist use of existing shoreline access locations • aesthetic or scenic landscapes or views • archaeological resources, *built heritage resource*s and *cultural heritage landscapes* • historic canals • federal property • heritage river systems • other
Presence and Extent of:	**Socioeconomic** • surrounding neighbourhood or community • surrounding land uses or growth pressure • existing infrastructure, support services, facilities (education, water supply, sewage) • pedestrian traffic routes • property values or ownership • existing tourism operations • property/farm accessibility • other
Presence and Extent of:	**Engineering/ Technical** • rate of erosion in ecosystem • sediment deposition zones in ecosystem • flood *risk* in ecosystem • slope stability • existing structures • hazardous lands • hazardous sites • other

APPENDIX C
REFERENCE
INFORMATION

The following reference information is offered to assist *proponent*s in establishing contact with appropriate agencies when certain situations are identified which result in various types of environmental impacts. The examples which follow are not expected to be comprehensive and the *proponent* is responsible to determine the appropriate agency to contact when different situations arise and different environmental impacts are identified.

This information is considered current as of the date of writing.

The Conservation Authority is responsible for ensuring that the undertaking meets the requirements of all legislation which is applicable at the time of planning and carrying out the undertaking.

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Physical			
Unique Landforms	ensure physical characteristics of the landform are maintained	▪ Ministry of Natural Resources (MNR) ▪ Municipality ▪ Conservation Authority	Watershed Management Plans
Existing Mineral or Aggregate Resources Extraction Industries	minimize or avoid impacts to existing operations	▪ MNR ▪ Local operator ▪ Municipality	*Aggregate Resources Act* *Planning Act*, Provincial Policy Statement, 2005
Earth Science - Areas of Natural and Scientific Interest (ANSI's)	retain present characteristics	▪ MNR ▪ Conservation Authority	*Planning Act*, Provincial Policy Statement, 2005
Specialty Crop Areas	ensure project has no long term effect on viability, avoid or reduce short term impacts	▪ Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	*Planning Act*, Provincial Policy Statement, 2005

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Agricultural Lands or Production	avoid or reduce impacts to agricultural land	▪ OMAFRA ▪ Local Agricultural Representatives	*Planning Act*, Provincial Policy Statement
Niagara Escarpment	comply with the requirements of the Niagara Escarpment Planning and Development Act	▪ Niagara Escarpment Commission (NEC) ▪ Conservation Authority	*Niagara Escarpment Planning and Development Act*
Oak Ridges Moraine	ensure project complies with existing guidelines	▪ Regional Municipality ▪ Conservation Authority	Oak Ridges Moraine Conservation Plan Regional Official Plan Watershed Management Plans
Environmentally Sensitive/Significant Areas (physical)	ensure function and form retained	▪ Municipality ▪ Conservation Authority	Official Plan Watershed Management Plan
Air Quality	ensure equipment exhaust, dust and odour are controlled during construction	▪ MOE	
Agricultural Tile or Surface Drains	avoid or reduce impacts to existing drains avoid impacts to fisheries habitat	▪ OMAFRA ▪ Municipality ▪ Local Agricultural Representative ▪ Fisheries and Oceans Canada (DFO)	*Drainage Act* Federal *Fisheries Act*; all projects for which the Conservation Authority is the *proponent* will be reviewed in accordance
Noise Levels & Vibration	conform with local bylaws as to hours of construction	▪ Municipalities	Municipal Bylaws

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
High/Storm Water Flow Regime	ensure no adverse impacts on water levels, flood levels and on in stream erosion occur, both upstream and downstream of the project	▪ Conservation Authority ▪ Municipality ▪ Environment Canada ▪ MTO District Office ▪ MOE	*Conservation Authorities Act* Watershed Management Plans *Ontario Water Resources Act Canada Water Act* MTO Drainage Manual (1997)
Low/Base Water Flow Regime	ensure no adverse impacts on water levels, base flow, water taking permits are taken into account in project design	▪ Conservation Authority ▪ MOE ▪ Municipality ▪ Environment	*Conservation Authorities Act* Watershed Management Plans *Ontario Water Resources Act*
Existing Surface Drainage and Groundwater Seepage	ensure surface drainage patterns are maintained or compensated for	▪ MNR ▪ MOE ▪ Environment Canada ▪ Conservation Authority ▪ MTO District Office	*Lakes and Rivers Improvement Act* *Ontario Water Resources Act Canada Water Act* *Conservation Authorities Act*
Groundwater Recharge/ Discharge Zones	retain/enhance recharge/discharge characteristics and ensure any potential adverse impacts on connected aquifer systems are examined and avoided	▪ Municipality ▪ Conservation Authority ▪ MOE	Aquifer Management Plan Watershed Management Plans *Ontario Water Resources Act*
Located in vulnerable area identified in local assessment report	ensure compliance with local source protection plan	Conservation Authority/Source Protection Authority	*Clean Water Act*, 2006

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Littoral Drift	ensure impacts on littoral drift are examined and compensated for	▪ Conservation Authority ▪ Municipality	Shoreline Management Plans *Planning Act*, Provincial Policy Statement, 2005
Other Coastal Processes	ensure impacts on wave activities are examined and compensated, (e.g. increased wave reflection and diffraction)	▪ Conservation Authority ▪ Municipality	Shoreline Management Plans *Planning Act*, Provincial Policy Statement, 2005
Water Quality	ensure contamination of water does not occur	▪ MOE ▪ Environment Canada ▪ Municipality ▪ Conservation Authority	*Canadian Environmental Protection Act* *Canada Water Act* *Federal Fisheries Act*, section 36(3) Water Management Policies / Guidelines Provincial Water Quality Objectives, MOE 1994 Evaluating Construction Activities Impacting on Water Resources guideline (February 1994) Fill Quality Guidelines for Lakefilling in Ontario:
Soil/Fill Quality	ensure contamination of soil/fill does not occur	MOE	Fill Quality Guidelines for Lakefilling in Ontario: Application of Sediment and Water Quality Guidelines to

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Contaminated Soils/Sediments/ Seeps	ensure contaminated soils are not present or are dealt with appropriately	▪ MOE ▪ Environment Canada	*Federal Fisheries Act* *Canadian Environmental Protection Act* *Environmental Protection Act* Guidelines for Identifying Assessing and Managing Contaminated Sediments in Ontario, May 2008 Handbook for Dredging and Dredged Material Disposal in Ontario, updated January 2011 Ontario Regulation 153/04 (Records of Site Condition); and The accompanying Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*
Existing Transportation Routes	eliminate or reduce impediments to present traffic flow	▪ Ontario Provincial Police (OPP) ▪ MTO District Office ▪ Municipality	*Public Transportation and Highway Improvement Act (PTHIA)* MTO Drainage Manual (1997)
Constructed Crossings (e.g. Bridges, Culverts)	ensure impacts on existing crossings are determined, and either	▪ MTO District Office ▪ Municipality	*Public Transportation and Highway Improvement Act (PTHIA)*
Geomorphology	ensure impacts are examined and avoided or compensated for	▪ MNR ▪ Conservation Authority	Natural Channel Systems, June 1994 *Planning Act*, Provincial Policy

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Lake Simcoe Watershed	Ensure project compliance with the requirements of the Lake Simcoe Protection Plan	MOE Conservation Authority	*Lake Simcoe Protection Act*
Biological			
Wildlife Habitat	ensure disturbance to habitat is minimized or avoided	▪ MNR ▪ Environment Canada ▪ Conservation Authority	*Fish and Wildlife Conservation Act Migratory Birds Convention Act* Canadian Biodiversity Strategy *Planning Act*, Provincial Policy Statement, 2005
Habitat Linkages or Corridors	ensure disturbance to habitat in minimized or avoided	▪ MNR ▪ Environment Canada ▪ Conservation Authority	Canadian Biodiversity Strategy *Fish and Wildlife Conservation Act* *Migratory Birds Convention Act*
Significant Vegetation Communities	minimize clearing and provide for *revegetation* following construction	▪ MNR ▪ Municipality ▪ Conservation Authority	Canadian Biodiversity Strategy *Forestry Act Woodlands Improvements Act* Agreement Forests
Environmentally Sensitive/Significant Areas (*biological*)	ensure function and form is retained	▪ Municipality ▪ Conservation Authority	Official Plan Conservation Authority ESA Plan Watershed Management Plans

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Fish Habitat	ensure spawning, feeding, and movement are not restricted, comply with the requirements of the *Fisheries Act*	▪ MNR ▪ DFO ▪ Conservation Authority	*Federal Fisheries Act*; all Class EA projects for which the Conservation Authority is the *proponent* will be reviewed in accordance with the Fish Habitat Referral Protocol, 2009 Watershed Management Plans
Species of Concern	avoid impacts on species(e.g. Species at Risk, Vulnerable/Threatened/Endangered Species, Conservation priorities)_ of both flora and fauna it should be noted that *Aboriginal Communities* may identify species of concern or interest to their communities - medicinal, traditional ect.	▪ Environment Canada ▪ MNR ▪ Conservation Authority ▪ Local *Aboriginal Community*	*Species at Risk Act* Canadian Biodiversity Strategy *Canada Wildlife Act Endangered Species Act, 2007* Watershed Management Plans *Planning Act*, Provincial Policy Statement, 2005, C*onstitution Act* Ontario's New Approach to
Exotic/Alien and Invasive Species	eliminate or reduce *risk* of spreading or introduction	▪ Environment Canada ▪ MNR	Canadian Biodiversity Strategy
Wildlife/ Bird Migration Patterns	ensure disturbance to habitat is minimized or avoided; including seasonal habitat used for reproduction and /or stopover areas by migratory birds	Environment Canada	*Migratory Birds Convention Act*
Wetlands	ensure function and form is retained, comply with the requirements of PPS	▪ MNR/MMAH ▪ Municipality ▪ Environment Canada ▪ Conservation Authority	*Planning Act*, Section 2.3 Provincial Policy Statement, 2005 Official Plan
Microclimate	ensure impacts regarding windscreening, snow accumulation, shading are		

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Life Science ANSI's	retain characteristics	MNR	*Planning Act*, Provincial Policy Statement, 2005
Unique Habitats	retain/enhance present characteristics and functions	▪ Municipality ▪ MNR ▪ Conservation Authority	Official Plan *Planning Act*, Provincial Policy Statement, 2005
Unique Habitats	retain/enhance present characteristics and functions	▪ Municipality ▪ MNR ▪ Conservation Authority	Official Plan *Planning Act*, Provincial Policy Statement, 2005
Cultural			
Traditional Land Uses/ Aboriginal Reserve or Community	Ensure interests are identified and where possible prevent or mitigate any potential adverse effects the project may have on aboriginal interests according to present guidelines	▪ Ministry of Aboriginal Affairs (MAA) ▪ MNR – District Office ▪ Local *Aboriginal Community*	Ontario's New Approach to Aboriginal Affairs
Outstanding Native Land Claim or Treaty Rights	Ensure claims or treaty rights are identified and where possible prevent or mitigate any potential adverse effects the project may have on aboriginal claims or treaty rights.	▪ Ministry of Aboriginal Affairs (MAA) ▪ Aboriginal Affairs and Northern Development Canada	*Constitution Act* Ontario's New Approach to Aboriginal Affairs
Transboundary Water Management Issues	Ensure in-water work in interconnecting channels of international boundary waters (e.g. St Mary's River, Detroit & St. Clair Rivers, Niagara River and St. Lawrence River) does not impact water levels, flow, and quality.	▪ Environment Canada ▪ Foreign Affairs & International Trade Canada (DFAIT)	*Boundary Waters Treaty Act*

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Riparian uses	ensure impacts are reduced to water access, boating, cottages	▪ Landowners ▪ Municipality ▪ Conservation Authority	
Recreational or Tourist Use of Water Body and/or adjacent lands	avoid impacts to existing routes for navigation and existing or planned trails	▪ Transport Canada ▪ Regional Ministry of Tourism, Culture and Recreation (MTCR) office ▪ Municipal or Area Tourism Trade Association ▪ Relevant Local Recreational Associations	*Navigable Waters Protection Act*, approval of construction in a water body and of shoreline construction for navigation safety
Recreational or Tourist Use of Existing Shoreline Access Locations	avoid or minimize impacts	▪ Municipal or Area Tourism Trade Association ▪ Relevant Local Recreational Associations ▪ Regional MTCS office ▪ Local Tourist Operators	
Aesthetic or Scenic Landscapes or Views	ensure that impacts to views are examined and accounted for	▪ Municipality ▪ Community	

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
*Archaeological Resources, Built Heritage Resource*s and Cultural Heritage Landscapes	▪ ensure resources are protected ▪ ensure that impact to *archaeological potential* areas where identified are adequately assessed	▪ MTCS-Culture Programs and Services Branch ▪ MTCS-Tourism Planning and Operations Division ▪ Municipality ▪ Local Historical Board or Organization ▪ Municipal Heritage Committee ▪ Parks Canada ▪ Conservation Authority	*Ontario Heritage Act*- Two regulations set out the criteria for determining whether a property has *cultural heritage value* or interest: *Ontario Regulation 9/06 and Ontario Regulation 10/06* *Historic Sites and Monuments Act* *Historical Parks Act* *Planning Act*, Provincial Policy Statement, 2005 Guidelines for Preparing the Cultural Resource Component of Environmental Assessments (Ministry of Culture and Communications/Ministry of the Environment, 1992 *"Standards and Guidelines for Consultant Archaeologists"*(MTCS, 2011) "Standards and Guidelines for the Conservation of Historic Places in Canada" (Parks Canada, 2003) "Guidelines on the Man-Made Heritage Component of Environmental Assessments (Ontario Ministry of Culture and Recreation, reprinted 1981)" of Environmental Assessments (Ontario Ministry of Culture and Recreation, reprinted 1981)

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Historic Canals	comply with provisions	Canadian Heritage	Special Provisions may apply to specific Canals e.g. Canada - Ontario Rideau Trent Severn (CORTS) Agreement
Federal Property	comply with Federal requirements	Owner	*Canadian Environmental Assessment Act*
Heritage River Systems	retain characteristics	▪ MNR ▪ Conservation Authority	
Socioeconomic			
Surrounding Neighbourhood or Community	Surrounding Neighbourhood or Community	Surrounding Neighbourhood or Community	Surrounding Neighbourhood or Community
Surrounding Land Uses or Growth Pressure	Surrounding Land Uses or Growth Pressure	Surrounding Land Uses or Growth Pressure	Surrounding Land Uses or Growth Pressure
Existing Infrastructure, Support Services, Facilities	Existing Infrastructure, Support Services, Facilities	Existing Infrastructure, Support Services, Facilities	Existing Infrastructure, Support Services, Facilities
Pedestrian Traffic Routes	provide safe access to pedestrians during construction, restore access following completion	▪ Community ▪ Municipality	
Property Values or Ownership	consider effects of project on property value, in the case of instream work contact MNR re ownership of bed of watercourse	▪ Municipality ▪ Local Real Estate Board ▪ MNR	*Public Lands Act* *Lakes and Rivers*
Existing Tourism	avoid or reduce negative impacts of project on	▪ Ministry of Tourism	

SITUATION	MITIGATION REQUIRED	CONTACTS	LEGISLATION /APPROVALS /INFORMATION
Property/Farm	ensure access is	Private Landowners	
Engineering / Technical			
Rate of Erosion in	Rate of Erosion in	Rate of Erosion in	Rate of Erosion in
Sediment Deposition Zones in Ecosystem	Sediment Deposition Zones in Ecosystem	Sediment Deposition Zones in Ecosystem	Sediment Deposition Zones in Ecosystem
Flood Risk in Ecosystem	ensure flooding susceptibility is not increased	▪ Conservation Authorities ▪ Municipalities	*Conservation Authorities Act* *Planning Act*, Provincial Policy Statement, 2005
Slope Stability	ensure no adverse impacts on slope stability	▪ Conservation Authorities ▪ Municipalities	*Conservation Authorities Act* Geotechnical Principles for Stable Slopes Great Lakes-St. Lawrence River, Shoreline Policy (Terraprobe, 1994)
Existing Structures	ensure structural integrity of existing structures before and after project via the owner of the structure	Owner of Structure	
Hazardous Lands	ensure development complies with Provincial Policy Statement requirements	▪ Conservation Authority ▪ Municipality	*Conservation Authorities Act* *Planning Act*, Provincial Policy Statement, 2005
Hazardous Sites	ensure development complies with Provincial Policy Statement requirements	▪ Conservation Authority ▪ Municipality	*Conservation Authorities Act* *Planning Act*, Provincial Policy Statement, 2005

APPENDIX D
PROJECT PLAN FORMAT

1. Introduction

- Explanation of Project Plan and relationship of the undertaking to the *Environmental Assessment Act;*
- Purpose of the undertaking;
- Description of the study area;
- General description of the undertaking;
- Rationale for the undertaking;

2. Background

- Explanation of the history of the problem;
- Identification of previous studies;
- Justification of Conservation Authority involvement given the nature of the undertaking and its direct relationship to the policies, programs and watershed or shoreline plan or strategy of the Conservation Authority.

3. Baseline Inventory

- As on file; (see Section 3.5 "Preparation of a Baseline Environmental Inventory")

4. Examination of Alternatives

- As on file; (see Section 3.6 "Evaluation of Alternative Methods for Carrying Out Remedial Project" and Section 3.7 "Selection of a Preferred Alternative")

5. Environmental Screening

- As on file; (see Section 3.7.1 "Detailed Environmental Analysis of the Preferred Alternative")

6. Summary

- Comments received from screening;
- Discussion of how any concerns have been addressed;
- Outline of monitoring program which will be implemented (see Section 3.9).

Appendix E

SAMPLE NOTICE OF INTENT
(to be published in the local press, sent to Contact Group and sent to Conservation Ontario)

_____Conservation Authority

The _____Conservation Authority has commenced a study regarding_____located_____. This project is being considered in order to provide protection for_____which currently_____.

The Conservation Authority invites you to participate in this study, which is subject to the Class Environmental Assessment for Remedial Flood and Erosion Control Projects approved for this type of undertaking. Your input will be incorporated in the planning and design process for this project.
If you wish to be involved in this study, or to receive information, please contact_____at this office or visit our website.

Conservation Authority Name: _____
Telephone: _____
Fax: _____
Address: _____
_____
Email: _____
Website: _____

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, the Conservation Authority intends to proceed with the construction of this project.

SAMPLE NOTICE OF FILING DOCUMENT FOR REVIEW
(in the case of a PP this is sent to all who expressed an interest in the project and Conservation Ontario)
(in the case of an ESR this is to be published in the local press and sent to Contact Group, all who expressed an interest in the project and Conservation Ontario)

_____Conservation Authority

The_____ Conservation Authority has now completed the Environmental Study Report (ESR) regarding _____ _____located_____. The ESR has been prepared in accordance with the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, approved for projects of this type.

As described in the ESR, the Conservation Authority is proposing to_____.

Interested persons are invited to review this document at the Conservation Authority office. Copies are also available for review at (local municipal office, library, website, etc.). You may provide written comments to this office, within 30 calendar days from the date of this notice.

Conservation Authority Name: _____
Telephone: _____
Fax: _____
Address: _____
_____
Email: _____
Website: _____

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, the Conservation Authority intends to proceed with the construction of this project. If any individual feels that serious environmental concerns remain unresolved after consulting with Conservation Authority staff, it is their right to request that the project be subject to a Part II Order by the Minister of the Environment. Part II Order requests must be received by the Minister, with a copy to the Conservation Authority, at the following address within 30 calendar days following the date of this Notice:

Minister of the Environment
135 St. Clair Avenue West, 15th Floor
Toronto, Ontario
M4V 1P5

SAMPLE NOTICE OF FILING OF AN ADDENDUM FOR REVIEW
(in the case of a Project Plan this is sent to all who expressed an interest in the project and Conservation Ontario)
(in the case of an ESR this is to be published in the local press and sent to all who expressed an interest in the project and Conservation Ontario)

_____Conservation Authority

The _____Conservation Authority has completed a review of the Environmental Study Report (ESR) regarding_____ _____located_____. The ESR has been prepared in accordance with *the Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, approved for projects of this type.

As a result of comments received during the review of this document, changes have been proposed in order to address issues of concern. These changes have been outlined in an Addendum to the ESR. Interested persons are invited to review this addendum document at the Conservation Authority office. Copies are also available for review at (local municipal office, library, Website, etc.). You may provide comments to this office, within 15 calendar days from the date of this notice.

Conservation Authority Name: _____
Telephone: _____
Fax: _____
Address: _____
_____
Email: _____
Website: _____

Subject to comments received as a result of this review and the receipt of necessary approvals and funding, the Conservation Authority intends to proceed with the construction of this project. If any individual feels that serious environmental concerns remain unresolved after consulting with Conservation Authority staff, it is their right to request that the project be subject to a Part II Order by the Minister of the Environment. Part II Order requests must be received by the Minister, with a copy to the Conservation Authority, at the following address within 15 calendar days following the date of this Notice:

Minister of the Environment
135 St. Clair Avenue West, 15th Floor
Toronto, Ontario
M4V 1P5

SAMPLE NOTICE OF PROJECT APPROVAL
(to be sent to all who expressed an interest in the project and Conservation Ontario*)

_____Conservation Authority

The _____Conservation Authority has now completed the planning and design process approved under the *Environmental Assessment Act* in *the Class Environmental Assessment for Remedial Flood and Erosion Control Projects* for undertaking a remedial project regarding _____located_____.

We thank you for your interest, and for your participation in the planning of this project.

(*NOTE: Within 30 days of the "Notice of Project Approval", the "Proponent Conservation Authority Evaluation Form: Part A" (Appendix F) must be completed and submitted to Conservation Ontario.)

SAMPLE NOTICE OF PROJECT COMPLETION
(to be sent to all who expressed an interest in the project and Conservation Ontario*)
_____Conservation Authority Remedial Project Name: _____

This project has been completed in accordance with the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, approved under the *Environmental Assessment Act* for projects of this type. All monitoring program commitments have been met for the approved project [INCLUDE IF APPROPRIATE: including any conditions requiring monitoring that were imposed on the project as part of the Minister's denial of a Part II Order request (Section 7.0, #8)].

_____ _____
responsible project manager Date

(*NOTE: Within 30 days of the "Notice of Project Completion", the "Proponent Conservation Authority Evaluation Form: Part B" (Appendix F) must be completed and submitted to Conservation Ontario.)

APPENDIX F
Proponent Conservation Authority Evaluation Form

The Proponent Conservation Authority Evaluation Form: Part A and Part B is a necessary part of evaluating the effectiveness of this Class EA and will be used by Conservation Ontario to deliver on commitments made in Sections 10 and 11 of this Class EA. It is a necessary part of retaining our approval under the *Environmental Assessment Act* for this class of undertakings.

Part A:
This part of the evaluation form must be completed and submitted to Conservation Ontario within 30 days of the date stated on the "Notice of Project Approval".

_____ Conservation Authority Remedial Project Name: _____

This project has been planned in accordance with the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, approved under the *Environmental Assessment Act* for projects of this type.

_____ _____

responsible project manager Date

Please rate your satisfaction level with the following stages of the Class EA Process.

	Least Satisfied				**Most Satisfied**
Initiation of the Class EA Process	1	2	3	4	5
Examination of Environmental Planning & Design Principles	1	2	3	4	5
Review of Selection of Preferred Conservation Authority Program	1	2	3	4	5
Preparation of a Baseline Inventory	1	2	3	4	5
Evaluation of Alternative Methods	1	2	3	4	5
for Carrying out Remedial Project	1	2	3	4	5
Selection of Preferred Alternative Method	1	2	3	4	5
Detailed Environmental Analysis of the	1	2	3	4	5
Preferred Alternative Method	1	2	3	4	5
Selection of Documentation Level	1	2	3	4	5
Report Preparation (level of detail required)	1	2	3	4	5
Notification Requirements	1	2	3	4	5
Requests for Part II Orders (if applicable)	1	2	3	4	5
Amendment Process (if applicable)	1	2	3	4	5
Participation Levels (level of interest, ability to resolve issues)	1	2	3	4	5
Class EA Effectiveness Monitoring	1	2	3	4	5
(Conservation Ontario Annual Effects Monitoring Report,					
Five Year Review Report)					

Additional detail explaining the satisfaction level assigned may be attached to this form. Where your satisfaction level rates 1 or 2, additional detail should be attached and contribute to:

- Clarification of ambiguous areas of the document and procedure
- Improvement or streamlining of the planning and design process in areas where problems may have arisen
- Identification of need to extend the Class EA to undertakings that were not previously included
- Identification of need to withdraw the Class EA from undertakings which were previously included
- Updating information provided in the document (e.g. Appendix C)

Part B:
This part of the evaluation form must be completed and submitted to Conservation Ontario within 30 days of the date stated on the "Notice of Project Completion".

_____Conservation Authority Remedial Project Name:

_____

This project has been completed in accordance with the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, approved under the *Environmental Assessment Act* for projects of this type. All monitoring program commitments have been met for the approved project [INCLUDE IF APPROPRIATE: including any conditions requiring monitoring that were imposed on the project as part of the Minister of the Environment's denial of a Part II Order request (Section 7.0, #8)].

_____ _____

responsible project manager Date

Please rate your satisfaction level with the following stages of the Class EA Process.

	Least Satisfied				**Most Satisfied**
Construction Monitoring	1	2	3	4	5
Amendment Process (if applicable)	1	2	3	4	5
Report Preparation (level of detail required)	1	2	3	4	5
Project Results (outcomes of the monitoring report; issues successfully resolved)	1	2	3	4	5
Notification Requirements	1	2	3	4	5
Class EA Effectiveness Monitoring (Conservation Ontario Annual Effectiveness Monitoring Report, Five Year Review Report)	1	2	3	4	5

Additional detail explaining the satisfaction level assigned may be attached to this form. Where your satisfaction level rates 1 or 2, additional detail should be attached and contribute to:

- Clarification of ambiguous areas of the document and procedure
- Improvement or streamlining of the planning and design process in areas where problems may have arisen
- Identification of need to extend the Class EA to undertakings that were not previously included
- Identification of need to withdraw the Class EA from undertakings which were previously included
- Updating information provided in the document (e.g. Appendix C)

APPENDIX G

ENVIRONMENTAL STUDY REPORT FORMAT

1. Introduction

- Explanation of an ESR and relationship of the undertaking to the *Environmental Assessment Act;*
- Purpose of the undertaking;
- Description of the study area;
- General description of the undertaking;
- Rationale for the undertaking;

2. Background

- Explanation of the history of the problem;
- Identification of previous studies;
- Justification of Conservation Authority involvement given the nature of the undertaking and its direct relationship to the policies, programs and watershed or shoreline plan or strategy of the Conservation Authority.

3. Baseline Inventory

- As on file; (see Section 3.5 "Preparation of a Baseline Environmental Inventory")

4. Examination of Alternatives

- As on file; (see Section 3.6 "Evaluation of Alternative Methods for Carrying Out Remedial Project" and Section 3.7 "Selection of a Preferred Alternative")

5. Environmental Screening

- As on file; (see Section 3.7.1 "Detailed Environmental Analysis of the Preferred Alternative")

6. Summary

- Comments received from screening;
- Discussion of how the concerns that have been addressed, and what value judgements have been made, i.e. the acceptability of the net impact due to the merits of the project;
- Outline of monitoring program which will be implemented (see Section 3.9).

APPENDIX H

COMMUNITY LIAISON COMMITTEE REPORT EXAMPLE FORMAT

As per Section 4.1.5, members of a Community Liaison Committee may submit an assessment to the Conservation Authority, after Notice of Project Completion, commenting on the effectiveness of the Class EA process for meeting public concerns for the specific project and, where relevant, identify possible improvements.

Please rate the Committee's satisfaction level with the following as it pertains to the Class EA Process to address concerns associated with this project.

	Least Satisfied				**Most Satisfied**
Initiation of the Class Environmental Assessment Process	1	2	3	4	5
Examination of Environmental Planning and Design Principles	1	2	3	4	5
Review of Selection of Preferred Conservation Authority Program	1	2	3	4	5
Preparation of a Baseline Inventory	1	2	3	4	5
Evaluation of Alternative Methods for Carrying Out Remedial Project	1	2	3	4	5
Selection of Preferred Alternative Method	1	2	3	4	5
Detailed Environmental Analysis of the Preferred Alternative Method	1	2	3	4	5
Selection of Documentation Level	1	2	3	4	5
Report Preparation	1	2	3	4	5
Notification	1	2	3	4	5
Participation Levels	1	2	3	4	5
Conservation Authority's Ability to Understand Concerns	1	2	3	4	5
Conservation Authority's Accommodation of Concerns	1	2	3	4	5
Provision of Sufficient Education Opportunities to Increase Your Level of	1	2	3	4	5
Project Results	1	2	3	4	5

Please outline any areas of problems or concerns or points where expectations were not addressed by the Class EA process.

APPENDIX I

COMMUNITY LIAISON COMMITTEE, GUIDELINES FOR ADMINISTRATION AND OPERATION

The Class EA states that a Community Liaison Committee (CLC) shall be established on a project by project basis for each remedial flood and erosion control work undertaken in accordance with the Class EA. The formality of a CLC's structure and composition should be proportional to the amount of public interest in an undertaking. (A CLC for a non-controversial PP, for example, should be less structured than for a more substantial undertaking generating more public concern.) With this in mind, the following are presented as guidelines only. The Conservation Authority will establish specific Terms of Reference for the CLC's on a project by project basis.

Purpose
As outlined in the text of this document, key functions include:

- to assist the Conservation Authority in obtaining public input
- to identify issues of concern regarding a remedial project
- to review information and provide comments to the Conservation Authority to be utilized during the planning and design process
- to disseminate information

Membership
The Conservation Authority shall strive to ensure that the membership of the CLC is representative of all views respecting a proposed project. The number of members will be determined on a project by project basis. The Conservation Authority has the discretion to select members of the Committee, but shall do so through an open and accountable forum.

Members may include:
- individuals or representatives of groups who expressed an interest in the remedial project
- local First Nation or Métis community representatives
- members of the Conservation Authority Boards

(not to be confused with technical advisory committees, or review agency staff)

Administration
With the establishment of a CLC, the Conservation Authority will determine the level of formality of the CLC's structure and composition.
This will result in:

- A timetable of meeting dates established
- In more formalized cases, rules of order for meetings would be established, and the election of a Chairman would occur

The support to be offered by the Conservation Authority, to the CLC, will also be determined, in most instances on a case by case basis. Individual Conservation Authorities may establish their own guidelines relating to this matter.

As a minimum, the Conservation Authority will provide:

- meeting facilities
- clerical support, wordprocessing, copying etc.

APPENDIX J

GLOSSARY OF TERMS

Aboriginal Communities: The word "Aboriginal" is used in accordance with Section 35 of the *Constitution Act* and means "Indian, Inuit and Métis peoples of Canada".

Alternate Methods: Alternate methods of carrying out the proposed undertaking are different ways of doing the same activity. Alternate methods could include consideration of one or more of the following: alternative technologies; alternative methods of applying specific technologies; alternate sites for a proposed undertaking; alternate design methods; and, alternative methods of operating any facilities associated with a proposed undertaking.
Alternatives: Both alternative methods and alternatives to a proposed undertaking.

Alternatives To: Alternatives to the proposed undertaking are functionally different ways of approaching and dealing with a problem or opportunity.

Alternative Remedial Measures: Alternative ways of approaching a problem situation once it is determined that an undertaking under the Class EA is appropriate. Each type of remedial measure has a number of method/design alternatives that can be considered.

Alternative Solutions: Alternative ways of solving a documented deficiency, including the alternative of doing nothing. An assessment of alternative solutions must precede determination of *alternative remedial measures* and alternative methods/designs.

Amendment: A change to a Class EA which can be initiated by the proponent or Minister of the Environment:

- Before a Notice of Completion of Review is given under subsection 7.1(2) of the *Environmental Assessment Act;*
- After a Notice of Completion of Review subject to conditions, if any, imposed by the Minister; or
- In accordance with the amending procedures in an approved Class EA

When the amendments are made, and the Class EA has been resubmitted, a decision to approve, approve with terms and conditions or refuse the undertaking can be considered.

Archaeological Potential: The likelihood that a property contains archaeological resources. Criteria for determining archaeological potential are established by the Province, but municipal approaches which achieve the same objective may also be used. Archaeological potential is confirmed through archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act.*

Archaeological Resources: Includes artifacts, archaeological sites and marine archaeological sites. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act.*

Armour Stone: Quarried rock material that is used in the construction of shoreline or streambank protection devices. When used as shore protection it dissipates wave energy and reduces erosion.

Artificial Nourishment: The provision of additional *beach* material to areas where there is a deficiency in the sediment supply.

Beach: The zone of unconsolidated material that extends landward from the average annual low water level to either the place where there is marked change in material or physiographic form, the line of permanent vegetation, or the high water mark.

Berm: An embankment built around a low lying area.

Bioengineering: see "Soil Bioengineering"

Breakwater: A structure protecting a shore area, harbour, anchorage, or basin from wave action.

Built Heritage Resource: One or more significant buildings, structures, monuments, installations, or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community. These resources may be identified through designation or heritage conservation easement under the *Ontario Heritage Act*, or listed by local, provincial or federal jurisdictions.
Channel: A natural stream that conveys water; a ditch or channel excavated for the flow of water.

Channel Capacity: The maximum flow that is contained within a natural or engineered channel that does not overflow the adjacent lands.

Class Environmental Assessment (Class EA): A document that sets out a standardized planning process for those classes or groups of activities for which the applicant is responsible. It is also known as a "parent" document in some class environmental assessments. A Class EA is approved under the *Environmental Assessment Act* and applies to projects that are carried out routinely and have predictable environmental effects that can be readily managed. Projects defined within a Class EA require no further environmental approval under section 5 of the *Environmental Assessment Act*, conditional upon being planned according to the procedures set out in the document and not being subject to a Part II Order. All Class EAs have a mechanism where the Minister of the Environment may order that an "individual" environmental assessment be carried out for a particular project, if warranted (Part II Order or "bump-up.

Class Environmental Assessment Project: An undertaking that does not require any further approval under the *Environmental Assessment Act* if the planning process set out in the Class EA document is followed and successfully completed. Any interested person may request the Minister of the Environment or delegate to order that a Class EA project be bumped up to an "individual" environmental assessment by making a Part II Order.

Commitment: Represents a guarantee from a proponent about a certain course of action, that is, "I will do this, at this time, in this way." Proponents acknowledge these guarantees by documenting obligations and responsibilities, which they agree to follow, in environmental assessment documentation. Once the Minister of the Environment and Cabinet approve an application, the commitments within the document are often made legally binding as a condition of approval. Commitments are found in *environmental reports* for Class EA projects. Although not approved by the Minister and Cabinet, they represent guarantees from a proponent about a certain course of action.

Conservation: The wise use and management of natural resources to maintain, restore, enhance and protect the quantity and quality of the resources for sustained benefit.

Consultation: A two-way communication process to involve *interested persons* in the planning, implementation and monitoring of a proposed undertaking, or in the context of Class EAs, in the determination of the planning process itself. Consultation is intended to:

- Identify concerns;
- Identify relevant information;
- Identify relevant guidelines, policies and standards;
- Facilitate the development of a list of all required approvals, licenses or permits;
- Provide guidance to the proponent about the preparation of the terms of reference and Class EA;
- Ensure that relevant information is shared about the proposed undertaking;
- Encourage the submission of requests for further information and analysis early in the Class EA process;
- Enable the proponent to make informed decisions about the project;
- Enable the ministry to make a fair and balanced decision.

Cultural Heritage Landscape: A defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include but are not limited to, heritage conservation districts designated under the *Ontario Heritage Act*; and villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

Dike: An earthen berm constructed for the purpose of holding back floodwater.

Director: refers to the Director of the Environmental Approvals Branch (EAB) of the MOE.

Design Storm: A storm of a magnitude which will generate specified flows given certain conditions. This is used as a design standard for protective measures.

Drop Structures: One, or a series of, erosion resistant steps, constructed across the width of a stream or river.

Dry Dams: A dam designed to retain water upstream only during a specified high flow event. The reservoir of these dams remains dry during periods of normal flow.

Dune: A nearly horizontal part of the beach, formed by the deposition of material by wind action.

Earth Science ANSI (Area of Natural or Scientific Interest): Areas designated by the Ministry of Natural Resources as containing natural features that have values related to protection, natural heritage appreciation, scientific study or education.

Ecosystem: A dynamic totality comprised of interacting living and non-living components which encompasses the interacting components of sunlight, air, water, soil, plants, and animals (including humans), within the system.

Environment: The *Environmental Assessment Act* defines "environment" to mean:

a) Air, land or water,

b) Plant and animal life, including human life,

c) The social, economic and cultural conditions that influence the life of humans or a community,

d) Any building, structure, machine or other device or thing made by humans,

e) Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or

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

Environmental Assessment Act (EAA): The *Environmental Assessment Act* (and amendments and regulations thereto) is a provincial statue that sets out a planning and decision-making process to evaluate the potential environmental effects of a proposed undertaking. Proponents wishing to proceed with an undertaking must document their planning and decision-making process and submit the results from their environmental assessment to the Minister of the Environment for approval.

Environmental Assessment Coordinator: The assigned staff person from one of the ministry's five regional offices. Environmental Assessment Coordinators administer provincial environmental assessment requirements by managing the ministry's technical review, ensuring that concerns specific to the ministry's mandate are

provided to the proponent to be addressed, and providing guidance on the specific processes, provisions and requirements of Class EA and Environmental Screening Processes.

Environmental Effect: The effect that a proposed undertaking or its alternatives has or could potentially have on the environment, either positive or negative, direct or indirect, short- or long-term.

Environmental Report: Any report or documentation prepared for a Class EA project which describes how the Class EA project was planned to meet the requirements of the approved Class EA. It is typically called an environmental study report. Also known as Project Plan (PP), project file, environmental screening report, environmental study report, consultation and documentation record. The names vary by Class EA.

Erosion: A term used in this document collectively referring to a) The wearing away of the land surface by running water, wind, ice or other geological agents; b) Detachment and movement of soil or rock fragments by water, wind, ice or gravity; c) Instability of a slope.

Fauna: A collective term for animal species present in an ecosystem.

Fill: Any material deposited by any agent so as to fill or partly fill a channel, valley, or other depression.

Flood: A rise in the water level resulting in the inundation of areas adjacent to a lake or stream channel not ordinarily covered by water.

Flood Event: Riverine A flood occurrence typically measured by return period. (i.e., a 100-year return period has a 1% probability of being equalled or executed in any given year.)

Flood Event: Shoreline The 100 Year Flood Level means the peak stillwater level due to the combined occurrences of mean monthly lake levels and wind setup which is equalled or exceeded in one percent of all the years. In connecting channels and the St. Lawrence River, the 100 Year Flood Level is the peak instantaneous stillwater level that is equalled or exceeded in one percent of all the years.

Flood Plain: The area adjacent to a watercourse which is inundated as a result of flows exceeding the *channel capacity* of the watercourse. Floodplain can be defined according to *design storm*s which inundate specified areas depending on certain conditions.

Flood proofing: 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.

Flora: The collective term for the plant species present in an ecosystem.

Frazil Ice: Surface ice which forms on rapidly flowing rivers, the movement of the water preventing the ice crystals from forming a solid sheet.

Gabion: A rectangular or cylindrical wire mesh cage filled with rock and used in protecting against erosion.

Geomorphology: The physical features of the earth and ongoing processes which shape landforms.

Gradient: Change of elevation, velocity, pressure or other characteristics per unit length; slope.

Groundwater: Subsurface water in zone of saturation.

Groyne: A shore protection structure built (usually perpendicular to the shoreline) to trap littoral drift or retard erosion. The resulting beach provides shore protection.

Groyne Field (groyne system): A series of groynes acting together to protect a section of shore.

Habitat: The place or site where an animal or plant community naturally or normally lives. The environment in which the life needs of a plant or animal organism, population, or community are supplied.

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

Hazardous Sites: Property or lands that could be unsafe for development and site alteration due to naturally occurring hazards. These may include unstable soils (sensitive marine clays (leda), organic soils) or unstable bed rock (karst topography).

Headland: A hard structure constructed perpendicular to the shoreline, for the purpose of building or protecting a beach by trapping littoral drift.

Hydraulic: The movement of water through conveyance systems.

Ice Control Boom: A line of connected floating timbers stretched across a watercourse for the purpose of modifying ice formation and/or break-up processes.

Impervious/Impermeable Soil: A soil through which water, air or roots cannot penetrate.

Individual Environmental Assessment: Refers to an environmental assessment for a specific undertaking to which Part II of the *Environmental Assessment Act* applies and which is neither exempt nor covered by Class EA approval.

Interested Persons: Individuals or organizations with an interest in a particular undertaking. Persons with an interest in a particular undertaking often include neighbours and individuals, environmental groups or clubs, naturalist organizations, agricultural organizations, sports or recreational groups, organizations from the local community, municipal heritage committees, ratepayers associations, cottage associations, *Aboriginal Communities* and businesses. Interested persons are not required to demonstrate that they will personally be affected by a particular undertaking. Interested persons are often called stakeholders.

Island: A method of shoreline protection, viewed as a wide ultimate off-shore breakwater, mostly circular or oval in shape. Islands are used predominantly to provide habitat improvements as well as to protect the shoreline from the erosive forces of wave action by dissipating the wave energy before the wave intercepts the shore.

Jurisdiction: The extent of territory over which authority may be legally exercised.

Landform: A discernible natural landscape, such as a floodplain, stream terrace, plateau, or valley.

Lee: Shelter, or part or side sheltered from wind and waves

Life Science ANSI (Area of Natural and Scientific): Areas designated by the ~~Ontario~~ Ministry of Natural Resources as containing natural features that have values related to protection, natural heritage appreciation, scientific study or education.

Littoral Cell: A self contained coastal sediment system that has no movement of sediment across its boundaries. The longshore limits are defined by natural or artificial barriers where net sediment movement changes direction or becomes zero.

Littoral Drift: The movement of sediment along a shoreline by prevailing currents and oblique waves.

Mediation: A dispute resolution process in which a neutral third party (mediator) who is acceptable to all parties assists disputants in reaching a mutually acceptable agreement. The mediator has no authority to impose a settlement and participation in the process is voluntary.

Microclimate: The climatic condition of a small area resulting from the modification of the general climatic conditions.

Minister: Minister of the Environment.

MOE: Ministry of the Environment.

Monitoring: The activities carried out by the applicant after approval of an undertaking to determine the environmental effects of the undertaking "effects monitoring"). Monitoring can also refer to those activities carried out by the Ministry of the Environment to ensure that an applicant complies with the conditions of approval of the Class EA ("compliance monitoring").

Effectiveness monitoring is a third type of monitoring in which an applicant evaluates how effectively its Class EA is working in the planning and implementation of its *Class Environmental Assessment* Projects.

MNR: Ministry of Natural Resources.

Offshore Breakwater: A method of shoreline protection, defined as a shore parallel structure, separated from the shore under all water levels. Offshore breakwaters are used to protect shorelines from the erosive forces of wave action by dissipating the wave energy before the wave intercepts the shore.

Part II Order: Formerly known as a "bump-up," a Part II Order is an order issued by the Minister of the Environment that makes a *Class Environmental Assessment* Project an undertaking that is subject to Part II of the *Environmental Assessment Act.*

Permeable/Pervious: Capable of transmitting air or liquid.

Pile: A long, heavy timber or section of concrete or metal to be driven into the ground or lakebed to provide support or protection.

Proponent: Defined in the *Environmental Assessment Act* as a person who,

a) Carries out or proposed to carry out an undertaking, or

b) Is the owner or person having charge, management or control of an undertaking.

For the purposes of the Notice of Approval of Class EA proponent refers to CO's member Conservation Authorities, as defined in the *Conservation Authorities Act*, who will be carrying out the proposed class of undertakings, or CO on behalf of the Conservation Authorities.

Public: Includes interest groups, associations, and individuals.

Regulations: Statutory controls, enacted through legislation, for the purpose of controlling land and water use.

Remedial Projects: Non-structural/structural works which are intended to reduce *risk* of damages to human life and property caused by flooding, erosion and/or other water related hazards.

Reservoir: Impounded body of water or controlled lake in which water is collected or stored.

Revegetation: The provision of plant materials to an area presently devoid of such.

Revetment: A sloped facing of stone, concrete etc. built to protect an embankment or shore structure against erosion and failure by wave action or currents.

Rip rap: A protective layer of quarrystone, usually of mixed size, graded within wide size limit, placed to prevent erosion, scour, or sloughing of an embankment or bluff.

Risk: The chance that is associated with any action where harm or loss can be encountered. The *risk* associated with building in the floodplain can be assigned a percentage value based upon the degree of flood susceptibility of the proposed development.

River Reach: A section of a watercourse containing a set of specified characteristics, depending on the criteria (e.g. geomorphology, aquatic habitat, etc.)

Riverine: Of or pertaining to inland streams or rivers as opposed to lakeshores.

Rock Ramps: Sloped, riffle-like grade control structures made of rocks and installed on the channel bed. Rock ramps are designed to give a natural appearance and provide erosion control, enhanced aquatic habitat, free upstream and downstream movement of aquatic organisms, and oxygenation of stream water.

Runoff: The conveyance of surface water caused by precipitation and/or snowmelt.

Seawalls: Hard, impermeable structures, built parallel to the shore, designed to withstand extreme wave action.

Sediment: Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site or origin by air, water, gravity or ice and has come to rest on the earth's surface either above or below sea level.

Sheet Pile: A steel pile with a slender, flat, cross section to be driven into the ground or lakebed and linked or interlocked with like members to form a vertical wall or bulkhead.

Shore: The area of interface between land and water extending from the lakeward limit of the littoral zone landward to the first major change in terrain.

Shore Reach/Shoreline Reach: Portions of the shoreline containing similar physiographic or biological characteristics and shore dynamics such as erosion rates, similar flood elevations, etc., and include shore alignment, offshore bathometry, fetch characteristics, sediment transport rates, flood susceptibility, land use suitability, and environmental similarity.

Slope: The degree of deviation of a surface from horizontal, measured in a numerical ratio, percent or degrees.

Soil Bioengineering: The use of woody vegetative plants and cuttings often in combination with structural measures, for the purpose of stabilizing eroding slopes. The vegetative matter serves as a structural component, drain, and barrier to earth movement.

Stable Slope: The angle a slope would achieve when toe erosion is absent.

Still Water Level: The result of the combined occurrence of the static water level and a storm surge.

Storm Event: A rainfall event where the amount of rain that falls is measured as opposed to the volume of runoff. One storm referred to is the 1:100 Year Storm: the storm that produces an amount of rainfall that based on historical data occurs on the average once in 100 years.

Surface Runoff: That component of precipitation that results in overland flow and becomes a temporary part of streamflow.

Storm Surge: A rise above the normal water level on the shoreline due to the action of wind stress on the water surface.

Toe Erosion: The erosion which occurs at the toe of slopes, largely as a result of the continuous removal of earthen material by waves and currents.

Topography: The relative positions and elevations of the natural or built features of an area that describe the configuration of its surface.

Urban Runoff: Storm water generated from urban or urbanizing areas.

Watershed: The area drained by a river or lake system. A drainage area, drainage basin or catchment area.

Watershed Jurisdiction: The area over which a single Conservation Authority has jurisdiction.

Watershed Planning: Planning developed by a Conservation Authority to set goals, objectives and strategy for the conservation and development of water and land resources within a watershed or watershed jurisdiction.

Weathering: Mechanical and chemical processes that fragment and decompose rock materials.

Weir: Device for measuring or regulating the flow of water.

Wet Dams: Water control structures, fitted with control gates or other mechanisms that allow adjustments to be made to control the quantity of flow. The dams control some volume of water throughout the year.

Wetlands: Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water-tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens. Land being used for agricultural purposes, that are periodically 'soaked' or 'wet', are not considered to be wetlands in this definition. Such lands, whether or not they were wetlands at one time, are considered to have been converted to other uses.

Wildlife: A term used in this document to refer to all forms of animal life including insects amphibians, reptiles, birds, and mammals.

APPENDIX K

Issues and Outcomes of *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* Review

Issues [Identified in the *Proposed Terms of Reference* (Conservation Ontario, May 19, 2000; Approved September 1, 2000)]	**Outcomes** [As reflected in this Class EA document]
Updates/Clarification	
1) Flood & erosion control technical updates As indicated in this Class EA, Table 2.0 "Summary of the Class Undertakings" is not intended to be exhaustive since it cannot anticipate new, innovative approaches of addressing the four flood and erosion problem situations. Consideration, however, was given to the inclusion of alternative methods/designs to the Class EA document. For example, ice control booms were identified as a method to address riverine flooding.	Table 2.0, Part II, and the Appendix J: Glossary have been updated to reflect current practices and current technical terms.
2) Review/Updates of the Areas of Concern The areas of concern for staff to consider when reviewing a project are physical, biological, cultural, socioeconomic and engineering/technical. These same considerations are used for the environmental inventory, detailed environmental analysis, monitoring, and to identify reference information.	Table 3.0 and Appendix B and C have been updated to reflect current practices and technical terms
3) Updates resulting from *amendment*s to the *Conservation Authorities Act (CAA)* and the *Environmental Assessment Act (EAA) and Ontario Regulation 334/90*	Updates specifically for: CAA - All Section 1 including 1.3 "Funding & Approval Mechanisms" EAA - Section 7.0 "Part II Orders"; Section 2.2 modified to make justification consistent with EAA *Ont Regulation 334/90* under EAA - Table 1.0
4) Updates to reflect legislative changes	Appendix C has been updated including wording from Fisheries and Oceans Canada (DFO) to address current DFO/Conservation Authority agreements under section 35 of Federal *Fisheries Act*
5) Updates to reflect current discussions around role of Aboriginal peoples in provincial environmental regulatory regimes	Section 4.1 has been updated to reflect current policy and information provided by the Ministry of Aboriginal Affairs (MAA)

Issues [Identified in the *Proposed Terms of Reference* (Conservation Ontario, May 19, 2000; Approved	**Outcomes** [As reflected in this Class EA document]
6) Public Notification Methods Generally, practitioners and stakeholders are satisfied with the current levels of public *consultation*. The Class EA will be updated to include new venues for public *consultation* such as websites, newsletters, and/or cable channels. The Class EA will include a reminder that the proponent Conservation Authority should confirm whether some groups/associations have special timing requirements due to frequency of their meetings, etc. and that these requirements be given due consideration. Other improvements will be considered as they arise, such as a recommendation for an informal site meeting	- addressed in Section4.0, 4.2 "Public Notification Requirements" - addressed in Section 3.1.2 "Preliminary Site Analysis"
7) Federal Environmental Assessment Process: Triggers Some projects included in the class could potentially trigger a federal assessment under the CEAA. It is important that the relevant federal interests are addressed and the responsible federal agencies have been involved.	The Class EA planning and design process has been revised to include a new Section 1.2.5 "Status Under the CEAA". It includes direction on assessing whether the CEAA is triggered by the class of undertakings. A detailed Table B is provided in Appendix A This material was obtained through the Canadian Environmental Assessment Agency. The details on triggers will allow Conservation Authority staff to anticipate Federal involvement and allow Conservation Authority staff to notify them of projects early in the process.
8) Federal Environmental Assessment Process: Harmonization The Class EA Terms of Reference document indicated that the Class EA would address the need to harmonize both EA processes, and comply with the requirements of the pending federal-provincial agreement on harmonization.	The Federal and Provincial governments have not reached agreement on harmonization and *amendment*s to the CEAA have been introduced in the Legislature. This Class EA will be amended, if necessary, to reflect approved *amendment*s to the CEAA using the mechanisms provided in Section 11.0 of this Class EA. The Class EA planning and design process (Section 1.2.5) includes an explanation of the relationship to the Federal process and staff are encouraged to contact Federal Departments (Table A, Appendix A) early in the process. This material was obtained from the Canadian Environmental Assessment Agency

Issues [Identified in the *Proposed Terms of Reference* (Conservation Ontario, May 19, 2000; Approved September	**Outcomes** [As reflected in this Class EA document]
9) Operation, Maintenance & Retirement of Structure: Definitions and Examples - The definitions for operation, maintenance and retirement were examined and assessed against present-day activities. Consideration was given to whether examples were necessary.	- the definitions were considered to be clear and appropriate and examples were considered unnecessary. Additional direction is provided to Conservation Authorities through the following addition to Section 8.0: *Conservation Authorities shall endeavour to review all opportunities for incorporating environmental enhancements as part of project operations, maintenance or retirement activities (e.g. using materials of equal or better properties, etc.).*
10) Proponency under this Class EA	- updated and clarified in Section 2.4 "Proponents of the Class EA"

Increasing Efficiencies while Protecting the Environment	
1) Detailed Environmental Analysis - Considered a matrix as a tool for Conservation Authorities to record analysis and to illustrate link between detailed environmental analysis and monitoring and documentation	- included a matrix as a tool to assist Conservation Authority staff (see Table 3)
2) Master Planning Option - Considered opportunities for and whether a "sub/watershed master plan option" in the Class EA could increase efficiencies for the proponent Conservation Authority project manager by allowing the sub/watershed planning process to meet the requirements of the Class EA.	Master planning option has not been included because the watershed/subwatershed and shoreline management planning processes are undertaken at a broader scale and scope then the defined class of undertakings. It was considered that the best efficiencies can be achieved by ensuring that these broader planning initiatives involve the public and other agencies so that there is an awareness and knowledge of the problem situations. This knowledge base should result in improved efficiencies when implementing the Class EA process for a specific project. This is stated in Section
3) 45 (calendar) Day Review Period - Number of Conservation Authorities raised concerns with the length of the review period (in terms of project delays) and felt that 30 calendar days was adequate time for public review. - Review periods of other agencies were considered and 30 days was confirmed as a standard length of time.	- 30 days is provided for review periods in: Section 7.0 "Provision for Changing Project Status (Part II Order)", Section 3.7.2.1 "Project Plan", Section 3.7.2.2 "Environmental Study Report", Section 3.8 and Appendix E

Issues [Identified in the *Proposed Terms of Reference* (Conservation Ontario, May 19, 2000; Approved September	**Outcomes** [As reflected in this Class EA document]
4) Class EA Effectiveness Monitoring by Proponent Agency - The Class EA process was initiated 46 times between 1993 and 1996 and has been initiated 5, 2, and 2 times in 1997, 1998 and 1999 respectively. For purposes of reviewing the 1993 Class EA, information was collected by detailed surveys in 1998 and 1999. As indicated above, there was limited activity under the Class EA. The MOE requires that all Parent Class EAs include a well-defined annual monitoring and reporting program.	- *amendment*s made to Section 10 "Class EA Effectiveness Monitoring and Reporting" including the supporting cross- references to other Sections in this Class EA which are noted in Section 10.0
5) Class EA Amending Procedure - Based upon the responses received from the Conservation Authorities and the external stakeholders, the Class EA process is working well. An approval period of 5 years for the Class EA is too short and unnecessary when one considers the fourteen years of experience in using the Class EA approach to flood and erosion control projects, the anticipated limited use of the Class EA in the future, and the process involved in renewing the approval.	- addressed in Section 11 - approaches taken by other agencies were examined and the Municipal Engineers Association example was followed - references to an approval period of five years have been deleted and replaced with an open ended approval subject to monitoring and reporting requirements outlined in Section 10.0