



September 21, 2011

Oliver Pastinak
Public Safety Policy Advisor
Great Lakes and Water Policy Section
5th Floor North
300 Water Street
Peterborough, ON K9J 8M5

Dear Mr. Pastinak:

Re: Annex 2: Integrated Approach to Flood Mitigation in Canada, Sub-Component of the National Disaster Mitigation Strategy

Thank you for providing Conservation Ontario (CO) an opportunity to supply comments on “Annex 2: Integrated Approach to Flood Mitigation in Canada, Sub-Component of the National Disaster Mitigation Strategy”. CO welcomes the development of a national level strategy to address disaster mitigation and applauds the team’s efforts to date in this regard. Overall, Conservation Authority (CA) reviewers of this document found the strategy to be well-written and easy to follow.

The first component of any strategy for flood mitigation should be centred around the understanding of any flood risks. Within this document, there may be an underlying assumption that there is a complete understanding of the existing risks. This strategy should address the need for developing this understanding across the country, and look for opportunities to enhance the knowledge of existing practitioners.

In Ontario, Conservation Authorities as partners with MNR have provided leadership in flood mitigation. Given CAs’ strong leadership role, they may be an appropriate case study to include in the Annex 2. A number of the practices that CAs currently employ, such as being based on watersheds, completing floodplain mapping and employing regulations to direct development outside of floodplains appear to fit well within the recommended practices within this strategy. Moreover, the CO/MNR Water and Erosion Control Infrastructure program, the flood forecasting and warning program and the *Emergency Management and Civil Protection Act* are all good examples of the leadership within Ontario. This strategy should encourage all provinces and territories to employ the best aspects of the Ontario model, while enhancing the strategy through inclusion of the best practices from other provinces and territories.

This Annex recognizes the important impacts that climate change and urbanization are having on the flood hazard. Climate change, together with growing populations, increasing property values and aging infrastructure have diminished the capacity of watersheds to cope with storm runoff, exposing growing populations to increased flood risk. Conservation Authorities are already looking into adapting their flood management programs to account for climate change however there is a need for further provincial and

P.O. Box 11, 120 Bayview Parkway Newmarket Ontario L3Y 4W3
Tel: (905) 895-0716 Fax: (905) 895-0751 Email: info@conservationontario.ca

federal leadership in this regard. This strategy should include additional information or a commitment to an investment in science to assist agencies with forecasting flood risks as a result of climate change.

Conservation Ontario applauds that this Annex recognizes the impact that urbanization is having on flooding hazard. For example, it states that “new development can create new or exacerbate existing hazards”. The impacts of urbanization on the floodplain have also been identified by CAs. There is a need for more research and science to effectively quantify the results of urbanization. In the interim, CO has a variety of recommendations on how to improve this strategy related to urbanization and climate change within the flood mitigation elements.

Below is a summary of CA comments on the flood mitigation elements:

A: Promote Effectiveness

Structural Flood Protection

Structural solutions should be considered in concert with non-structural to optimize overall flood mitigation effectiveness. There should be a balanced approach presented with perhaps less emphasis on structural works within this document. As noted within this Annex, the enhancement of structural works may lead to increased development within a hazard area, and will certainly create additional infrastructure when already there are difficulties with adequately managing and maintaining current infrastructure. Examples such as using dikes to “contain and control flood waters” are not allowed under Ontario provincial policy to permanently remove lands out of the flood hazard. Moreover, the example of “building habitable living space above the flood construction level” may not provide safe ingress/egress, representing an incomplete picture of flood risk and protection.

Non-structural Solutions

Land use controls, as implemented through CA Section 28 regulations, have and will continue to represent an important and effective mechanism for reducing flood risk in Ontario. In addition to the non-structural solutions mentioned within this document, consideration should be given to the inclusion of advance warning systems of flooding situations, such as the Ontario Flood Forecasting and Warning Program. Non-structural solutions could also include promoting the use of Low Impact Development (LID) practices for new development to provide a reduction in runoff volume through on-site detention/retention, thus reducing the impact that urbanization has on flooding hazards. Programs should also be considered for existing developments to minimize their impacts, such as rain barrels, rain gardens, etc

B: Motivate Action

Financial Incentives

In addition to the recommendations contained within this section, non-conventional opportunities to promote flood mitigation activities should also be explored. For example, creative use of the property tax system or development fees could lead to reduced storm flow, through providing incentives to property owners who have employed LID. This will help to assist the aging infrastructure in Canada by minimizing flows during frequent events.

Remove Disincentives

Conservation Ontario supports the recognition of the perverse incentives for development in the floodplain which are currently taking place. As a result of CA regulations on development in the floodplain, costs associated with floods in Ontario have been dramatically reduced. On the other hand, Ontario is therefore not eligible for any disaster assistance funding despite all of the investment that Ontarians have made to reduce risk to lives and properties. Given this document’s emphasis on the removal of disincentives, there should be

some funding mechanism from the Federal government to ensure cost effective and life-saving programs are properly maintained.

C: Coordinate Mitigation Efforts

There is no mention within this section regarding the need for mitigation strategies to deal with issues surrounding the protection of critical infrastructure such as health care, emergency services and response, power generation, sewage, water supply and transportation. The protection of critical infrastructure should be highlighted within this document.

Standardized Concepts:

When determining appropriate business rules for flood mitigation, it should be recognized that existing methods for monitoring rainfall and stream flow in Ontario are becoming outdated. Therefore, there is a need to enhance existing monitoring networks by installing real time rainfall gauges and real time stream flow stations to improve flood forecasting and warning as well as response capacities.

It is also recognized that the terminology employed may affect the way that people understand flooding hazards. For example, “flood construction level” may not be the most appropriate word to describe floodproofing activities.

Partnerships:

This Annex should encourage the sharing of expertise. In this regard, an overall process to allow for knowledge transfer should be included. It is unclear whether the priority areas of the Centre of Mitigation Excellence involve locations or practices, although this Centre may serve as a potential mechanism for the exchange of best practices.

There is also a need to develop a better communications plan to share data on rainfall/stream flows among various regulatory agencies and various stakeholders within a watershed. The development of a plan should be highlighted within this document.

Regional/Watershed Basis:

Conservation Ontario strongly supports the use of the watershed as the most appropriate unit to delineate flood risks. Supplemental guidance within this document should be provided for coordinating work amongst interprovincial/territorial watersheds as well as Federal/First Nations/and International.

D: Promote a Culture of Flood Mitigation

General Public:

The emphasis on education of the public is appreciated. One further step should be taken to empower and enhance the capabilities of the community members in flood prone areas to forecast and respond to the major events with the help of public agencies. Community members can provide photos, videos, and information about the area (e.g. fallen trees in creek, blocked culverts, etc) which is difficult to collect in flash flood situations.

E: Demonstrate Accountability

The idea of demonstrating accountability is an important provision within this document. Through the review of the program, there should also be emphasis put on identifying weaknesses and opportunities for further improvement.

The Need for Additional Investment in Flood Mitigation

Aging infrastructure has diminished the capacity of watersheds to cope with increased storm runoff. Conservation Authorities own and operate 2.7 billion dollars worth of flood control infrastructure including 900 structures which mitigate flood risks to Ontario residents. Flood management programs delivered by Conservation Authorities prevent loss of life and an average of well over 100 million dollars per year in flood damages. While this document points to reducing dependency on federal and provincial funding, it is clear that preventative investment in infrastructure is essential to minimizing losses due to flood damages.

The majority of floodplain mapping in Ontario was completed under the Flood Damage Reduction Program in the late 1980s. This mapping was not developed to cope with the increasing frequency of extreme rainfall events as a result of climate change and the increased downstream peak flows due to urban development. Updating the floodplain mapping to identify site specific hazards, vulnerability maps and predictive models is imperative. Moreover, given the context of the impacts of urbanization, emphasis should also be put on developing floodplain maps for areas where the mapping previously was not completed, such as riverine systems with less than 125 ha drainage areas. This effort will require leadership and investment from federal and provincial partners.

Once again, thank you for the opportunity to comment on the “Annex 2: Integrated Approach to Flood Mitigation in Canada”. Conservation Ontario looks forward to contributing to the development of a more robust flood mitigation system in Canada and is willing to offer our expertise in floodplain management (including Great Lakes shorelines) for future projects conducted under the National Disaster Mitigation Strategy. Conservation Authorities are committed to assisting in future works around this initiative. Should you have any questions about the above comments, please feel free to contact me at extension 228.

Sincerely,



Leslie Rich
Policy and Planning Officer