Flood Protection & Remedial Capital Works Strategy

Why TRCA?

The protection of life and property, and the rehabilitation of valley and stream corridors are the core mandates of the Toronto & Region Conservation Authority (TRCA). It was the devastation and destruction caused by Hurricane Hazel in 1954 that emphasized the necessity of a coordinated flood control and water conservation plan for Metropolitan Toronto and the surrounding Region, and this storm is still used today as the Regulatory Storm (i.e., the storm event that is used to determine the extent of the regulated floodplain). This realization lead to the amalgamation of a number of conservation authorities in 1957, forming the TRCA (originally called the MTRCA). The Authority's objectives can be achieved through active remedial works and resource management projects which reduce or eliminate existing flood, erosion and slope stability hazards. Projects may be undertaken by the Authority on private and public lands, as well as on Authority owned lands. The Flood Protection and Remedial Capital Works Strategy specifically focuses on riverine flooding.

The Strategy

The Flood Protection & Remedial Capital Works Strategy will look at existing flood vulnerable areas within TRCA's jurisdiction and identify areas where flood risk may be reduced through remedial works projects. The Strategy will also establish a priority ranking for the areas and associated remedial projects. This Strategy updates and builds upon the TRCA's 1980 Flood Control Program. A number of developments have occurred since the 1980 Flood Control Program was prepared which necessitate the update, including: new Policies and Legislation (Provincial, Municipal and Authority); the construction of many of the flood control facilities recommended in the 1980 plan; numerous development applications which affect the hydrology (flows) within the watersheds; advances in technology allowing for more accurate modeling and greater coverage of floodline mapping; and the need to prepare for climate change.

Contemporary land use planning recognizes the importance of natural stream systems for both hydrologic and ecologic functions. As the understanding of these systems has evolved over time, so have TRCA's requirements for protecting them and subsequently providing protection to the public. TRCA employs set-backs, riparian buffers, stormwater quality, quantity and erosion controls to all new development applications. However, early development requirements had little regard for the natural watercourses that serviced lands. Water was seen as a nuisance to be conveyed away from developable areas as quickly as possible. Therefore, watercourses were often narrowed and channelized, and development often encroached onto flood prone lands, resulting in thousands of flood vulnerable structures (FVA's) in the older developed areas.

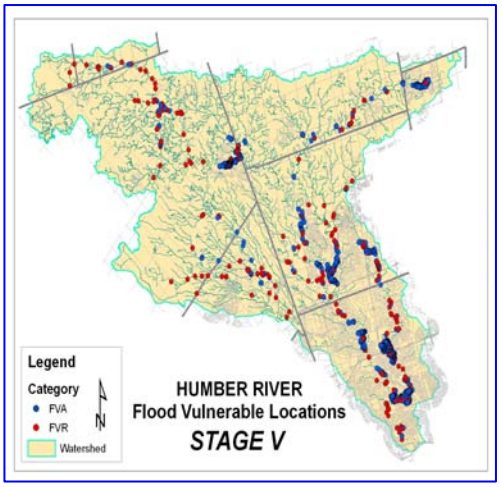
Black Creek Flood Channel

Claireville Dam

The Process

A Flood Vulnerable Areas (FVA's) Database has been created which identifies all flood-prone structures for a range of storm frequencies (ranging from a 1 in 2 year storm to the Regulatory Storm, or the Hurricane Hazel storm). The database uses the most up to date hydrologic and hydraulic data available and is represented graphically using a geographical information system (GIS).

An automated tool to prioritize remedial works has also been developed. The tool establishes the relative risks associated with flooding for groups of FVA's and thereby provides a method for TRCA staff to manage the implementation of flood protection works on a priority basis. Most important is the potential to reduce the risk to human life and to property. The tool is currently being used to assess priorities within the Humber River watershed (test case). Once the tool is extended across all watersheds and the Flood Protection & Remedial Works Strategy is complete, it is the Authority's goal to undertake remedial works projects on an on-going basis. Projects will be conducted following the Conservation Ontario Class Environmental Assessment process.



Our Jurisdiction

TRCA's area of jurisdiction includes 3,467 square kilometres. We manage the flood plain for the waterfront, Frenchman's Bay and nine (9) watersheds including (from the west to east): Etobicoke Creek, Mimico Creek, Humber River, Don River, Highland Creek, Rouge River, Petticoat Creek, Duffins Creek and Carruthers Creek. TRCA works closely with our Regional members - the City of Toronto; the Regional Municipalities of Peel, York, Durham; the Township of Adjala-Tosorontio and the Town of Mono and with fourteen municipalities (from Mississauga in the west to Ajax in the east, and as far north as Caledon).

Please visit www.trca.on.ca/BlackCreekClassEA for more information
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