



PROJECT DESCRIPTION

Coldwater Consulting undertook an assessment of hydrologic and hydraulic conditions in the Pointe Louise drainage basin at the western edge of the City of Sault Ste. Marie. This study was undertaken to assess potential changes to flood and water quality conditions in the area due to the development of the Pointe Estates project.

PROJECT APPROACH

The study analyzed flooding risk within the proposed development and adjacent properties under existing conditions and with the proposed development in place. Hydrologic analysis includes application of the Rational Method, as well as HEC-HMS using the SCS unit hydrograph method. Flood conveyance was assessed using analytic methods. Our findings show that the increased conveyance of the open waterway that will connect the development to the St. Marys River far exceeds any increase in runoff and peak flood flows due to the development. The net result is that there is no increase in flood risk due to the development.

A key element of this study was an analysis of circulation and water quality conditions anticipated within the proposed waterway using finite element and finite difference unsteady flow models, a particle transport model and an assimilative capacity model for phosphorus levels. This analysis shows that the combination of circulation due to ship wakes and seiching, combined with proposed water quality monitoring and a pumped recirculation system provides the capacity to maintain water quality within provincial guidelines.

CLIENT

J. Avery

LOCATION

Sault Ste. Marie, ON

DATE

2008

