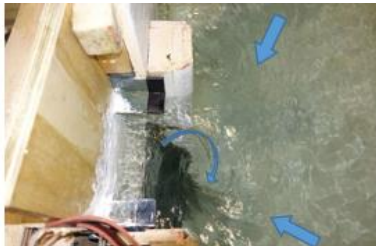


The Design of Hydropower Intakes for Run-of-the-River Power Plant and Decision Support System for Low Impact Development Master Planning

Funded by NSERC CRD and WSP Canada Inc / Duration: 2017 -2019

Significance: The first component of the project will address the research gap and concentrate on the complex hydraulics at hydropower intakes using physical and numerical models. **Through the proposed new research, new modelling approaches and guidelines will be developed to assist engineers in addressing the problem and seeking solutions to reduce the impacts, thus strengthening Canada's energy sector.**

The second component of the project will address the research gap by focusing on the development of a comprehensive planning framework. **This framework will address the challenge of data requirements needed to support the suitability analysis of Low Impact Development, predict cumulative performance of LID alternatives on a watershed basis, perform cost-effective analysis of LID alternatives (capital, operation, and maintenance), and project implementation and management options using the public-private partnership approach.** The research findings will offer great improvements to master planning of LID for Canadian municipalities and offer significant economic and environmental benefits.



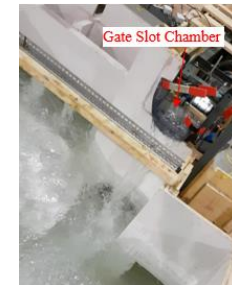
Vortex at the Upstream of Bypass Gate



Energy Dissipation at the Stilling Basin



Outflow to Downstream River



Overflow from Gate Slot Chamber (Overflow by new slot design)