

Proposed Hydropower Station and Whitewater Park at the Saskatoon Weir Engineering Pre-feasibility and Environmental Baseline Reports



Engineering Pre-feasibility and Environmental Baseline Studies were conducted in 2009 to gain a clearer understanding of the technical, environmental, and economic implications of a proposed hydropower station at the Saskatoon Weir. Assessments were also completed for a recreational whitewater park as an independent addition to the hydropower station. Final reports were received from the consultant in February, 2010.

The engineering pre-feasibility report concludes that a hydropower station can be incorporated into the existing weir, and is both technically feasible and economically viable. Several hydropower development concepts were considered in the study, ranging in capacity from 2.8 to 8.4 megawatts, with annual energy production ranging from 16.5 to 47.5 gigawatt-hours per year. An inflatable rubber bladder or Obermeyer Gate is used to increase the weir height while maintaining water level control during high flow conditions. The report also concludes that a recreational whitewater park can be incorporated into the existing weir, adjacent to the hydropower station on the east side of the South Saskatchewan River.

An Environmental Baseline Study was conducted to identify sensitive species and ecosystems, and to document current ecological conditions. A literature search and review was conducted, and field data collected to identify environmentally-sensitive areas and issues. Environmental components investigated included: hydrology; water and sediment quality; vegetation communities; fish and fish habitat; and wildlife and wildlife habitat.

The Engineering Pre-feasibility Study also considered the construction of a pedestrian bridge over the length of the weir to provide pedestrian access from one side of the river to the other. In addition to providing a pedestrian crossing isolated from vehicle or rail traffic, the bridge would provide improved access for facility and weir maintenance. A pedestrian crossing over the weir would make it possible to eliminate or close the existing pedestrian crossing attached to the CP Rail Bridge.

The next step of the proposed development would be to conduct a full feasibility study and environmental impact assessment. This would include detailed drawings, refined cost estimates and financial analysis, development and construction schedules, geotechnical and other investigations to determine the upstream and downstream effects of the proposed development, preparation of an environmental impact statement and initiation of the permitting process.

Based on feedback received through stakeholder and public consultation, together with the results of the Engineering Pre-feasibility and Environmental Baseline Studies, recommendations will be made in a report to City Council on how to proceed.