

The Yorkdale Shopping Centre

Water Use Assessment Case Study

Facility

The Yorkdale Shopping Centre is one of Canada's largest malls averaging 57,000 customer visits per day.

Background

Having recently undergone renovations to reduce their energy consumption, the Centre was looking for additional opportunities to lower their annual use of water. In the summer of 2007, HETEK was contracted by the Oxford Retail Group to conduct a water use assessment on Yorkdale's 12 shopping centre washrooms and 10 outdoor irrigation systems. The purpose of this audit was to determine the volumes of water consumed in each of these areas and provide economical recommendations to lower or eliminate any of the excess water use.

Findings

Six of Yorkdale's washrooms were fitted with inefficient toilets that consumed more than 20 million litres of water per year. The 10 outdoor irrigation systems were found to be over watering and had deficient sprinkler heads which were attributing to the excess use of water. Approximately 15 million litres of water per year was being used for the outdoor irrigation.

Water Reduction Opportunities

By replacing the inefficient toilets, repairing the deficient sprinkler heads and linking the 10 irrigation systems to a computer monitoring system, the Yorkdale Shopping Centre could reduce its annual water consumption by 17,800,000 litres of water per year.

Recommendation	Project Cost	City Rebate	Project Cost (after rebate)	Annual Savings (litres)	Annual Cost Savings	Payback Period
Installation of water efficient toilets	\$36,050	\$6,000	\$30,050	11,800,000	\$18,072	2 years
Computerized irrigation system	\$37,000	na	\$37,000	6,000,000	\$9,120	4 years
Total	\$73,050	\$6,000	\$67,050	17,800,000	\$27,192	2 1/2 years

* A potential rebate incentive for water efficient irrigation systems is under review by the City.



Recommendations

Currently the Oxford Retail Group is in the process of implementing the following recommendations at the Yorkdale Shopping Centre:

- installation of new 6 litre toilet bowls and flush valves
- repairing deficient sprinkler heads
- installing a computerized central irrigation control system to monitor and manage the 10 irrigation controllers for deficiencies as well as incorporate the weather and moisture loss into its daily operations.

Potential Savings

Project Cost: \$67,050
 Water Savings / Year: 17,800,000 litres
 Annual Cost Savings: \$27,200
 City Rebate: \$6,000
 Payback Period: 2 1/2 years