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UTILITIES

Liquid assets

With the city jacking up meter rates, home buyers, builders and owners are giving more attention to their use of water



BY KATHY FLAXMAN

As a student, Toronto architect Heather Dubbeldam once stayed with a family in Switzerland. One of the small adjustments she had to make was using a tiny handheld showerhead. She also remembers that family members "were just not used to showering every day and using lots of water."

Her experience comes to mind when she considers North American water-usage habits – at a time of increased concern about conserving natural resources and making homes more efficient.

Many people take more than one shower a day – often lengthy ones – and, as Ms. Dubbeldam says, they covet "power showers" and "super jets." But she thinks attitudes may be changing.

"A lot [of people] are ready to think about conserving."

That seems to be borne out by Statistics Canada figures. In 2005, 60 per cent of Canadian households reported having a water-saving showerhead, compared with 42 per cent in 1994, while 41 per cent had a water-saving toilet, compared with 15 per cent a decade earlier.

Ben Polley of Harvest Homes, an Ontario builder of environmentally friendly houses, says demand for water conservation among his clients has been increasing in the past couple of years.

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Moss Sund Architects and industrial designers FigForty have created this modern update of the rainbarrel. The Cista system is made of stainless steel and attaches to your downspout. A thermoplastic bladder holds up to 100 gallons of water collected from the roof overflow and stores it for you to use to water your gardens. Potted vines grow up the stainless shell.

MOSS SUND ARCHITECTS

FROM PAGE 1 // WATER

As prices rise, water conservation is catching on

At Ben Polley's home, the only visible outdoor components of his rainwater harvesting system are the black-painted eavestroughs. The downspout that enters the house sends the water to filtration equipment inside the home. HARVEST HOMES



“Fully half of our clients come to us with water conservation and reuse strategies already in mind,” he says.

Lou Di Geronimo, water manager for the city of Toronto, is also optimistic. “People can modify their behaviour,” he says. “They can modify consumption.”

That goal is being made easier by the availability of a range of new water-saving fixtures – faucets, showerheads – including hand-held ones – and toilets.

And, as Ms. Dubbeldam, principal of Dubbeldam Design Architects, says, “You can save a lot of water with a low-flow showerhead or a low-flow toilet.”

Good thing, too. With the exception of a 6-per-cent rise in

2005, residential water rates in Toronto have gone up 9 per cent a year since 2002.

A major part of the cost of providing water goes toward maintaining the city's 16,000 kilometres of underground pipe.

“We need \$1.3-billion for work on underground repairs alone,” Mr. Di Geronimo says. “[The pipe] carries water, waste water and storm water. There are four treatment plants, too.”

He expects it will take until 2014 for the city's water service to become totally sustainable.

In 2008, total water consumption for the city of Toronto was 481,032.19 megalitres, with toilets being the biggest consumers and showers the second. For 2009, the city projects it will cost \$1.8919 for a cubic metre of water – the equivalent of maybe two full bathtubs. “Or three tubs that are not as full,” Mr. Di Geronimo says.

The department tracks household as well as overall consumption, he explains, and factors in usage peaks in the summer, when people water their lawns and gardens, and wash their cars.

It is hoped that paying more for water will spur greater conservation. And the numbers seem to suggest that this change in attitude may have already started. The 481,032.19 megalitres used last year was a 7 per cent decrease from 2007.

Mr. Di Geronimo points out that the city offers rebates to people who install low-flow toilets. The rate varies according to the type of unit purchased.

With the growing consciousness of the need to conserve water, toilets may become the next sexy new appliance.

While an older standard toilet uses up to 20 litres of water with each flush, the new low-flow models take only six, and newer ultralow-flow versions come in at four litres. Dual-flush systems use only three litres for liquid waste and six for solid. (Note: There are hundreds of six-litre toilets on the market, all approved by the Canadian Standards Association, but some experts say only a dozen or so are actually efficient. So it's best to do some research.) Another type of toilet is made with a diaphragm rather than a reservoir, Carolyn Moss of Toronto-based Moss Sund Architects points out. “The diaphragm maintains a high pressure. Waste and water are literally jettisoned away, with much less water per flush.”

As for water-saving showerheads, Ms. Dubbeldam says that some models use only half as much water as a convention-

al one.

“As architects, we can specify fixtures and suggest to people ways in which they can cut down their water usage. People can collect their rain water in rain barrels and use that water for irrigation. Plus, there are all the measures – like not leaving the tap on while you brush your teeth – that help, too.”

Anne Lok, a sales representative with Toronto-based HomeLife/Realty One, says that many home buyers are looking for places where effective water-saving technology is being used, or will be installed. She notes that her clients, most of whom are in the market for a condo, have a wish list that includes systems to save rainwater or recycle “grey” water – water that has been used for showering and dishwashing – as long as they are part of a project's upfront costs.

As an example, she cites a Toronto condo building called 83 Redpath that offers individual metering of hot and cold water, dual-flush toilets and rainwater collection for irrigation.

The next big issue likely will be the reuse of household grey water for flushing toilets.

Ms. Moss notes that her firm is already using this technology. “We have a project in King City that will feature treated grey water for flushing toilets,” she says.

“There are lot of good strategies for saving water,” she adds. “Some are simple, like using the water you clean your vegetables in to water your plants, or sharing a bath. The higher-tech ones make sense when you are building or renovating.”

The potential for water savings is impressive. For instance, Brac Systems, a Canadian company, makes a system that captures shower water, filters it and pumps it into your toilet for reuse, Mr. Polley says. Devices such as these, which can be used in new or existing homes, could reduce residential water demand by up to one-third, she adds.

For homeowners without these devices, there still are low-tech measures that can be taken: Don't leave the water running is the most obvious.

And for the really serious? “If you drop an ice cube,” Ms. Moss says, laughing, “you can use it to water a plant instead of letting the water go down the sink.”

The reverse of that – on a much larger scale – actually came up in her studies: “I designed a system for arenas to capture rainwater and use it for making ice. ... That was considered unnecessary at that time by the professor, but no one would scoff at it now.”

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