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Stormwater fees: Principles, Facts and Prescriptions

The City's proposal to initiate a stormwater fee separate from water and waste water charges has stirred much passion. In the heat of the argument, the basic principle underlying a stormwater fee needs to be reasserted: You pave, you pay.

These facts will also help clear the fog:

+ managing stormwater (run-off from rain or snowmelt) has nothing to do with providing drinking water to residents and businesses or with managing their wastewater (formerly known as sewage);

+ roadside ditches and culverts are part of our stormwater infrastructure -- not to be confused with municipal drains that benefit farmers' fields and fall under a totally separate financing and maintenance regime;

+ a small but significant number of households and a smaller number of businesses, mostly in rural but also in some urban areas, do not receive a water bill, yet many of them do have rainwater run off their properties.

Two straightforward directives follow from the principle "you pave, you pay:"

1- paying for capital and operating costs of stormwater infrastructure (from ditches to pipes and ponds to treatment devices) should be in proportion to the the amount of hard (impervious) surface on one's property;

2- reducing the amount of run-off at one's property should be rewarded by seeing one's payments lowered.

This means that setting stormwater fees in proportion to assessed property values may be administratively simple but is neither fair nor logical, and offers no way to provide incentives for reducing run-off.

We could be asked to pay for stormwater infrastructure either on the tax bill or on the water bill but the water bill has the edge: We'll see what we pay every other month, not just twice a year; and we'll be happy to see the reward for efforts at reducing run-off that much more often. Psychologically, seeing the charge on the tax bill could suggest that assessed property values and stormwater management are related, which they are not.

Is providing incentives to reduce run-off at the lot level, resulting in less pollution and less need for infrastructure, an impossible dream? Not at all! Dozens of cities across North-America have done it. Not all have succeeded, so getting the rate structure and incentive design right is important. A prime example of a successful design is that of the City of Waterloo.

Waterloo example

Waterloo and Kitchener joined in a study that sampled 6,000 residences, allowing them to come up with six categories of residential units, based on lot size, each with a "hard surface" factor and a factor

measuring the intensity of hard infrastructure needed to serve them. These factors led to a distribution of the total cost of providing stormwater services. In 2016, a small residential lot (say, 90x48 feet) would pay \$5.61 per month, a large lot (say, 150x145 feet) would pay \$18.61. Starting in January 2013, residents have been able to apply for credit if they have a rain barrel, trees, a cistern, an infiltration gallery or an engineered landscape on their lot. How to calculate the credit is explained in straightforward terms in a 3-page application form. The fee can be reduced by up to 45%.

The cost of providing stormwater services is shared by institutional, commercial and industrial customers. They are divided into seven categories, again based on lot size, and their specific impervious and infrastructure intensity factors are determined. For a small commercial lot (less than 22,000 square feet) the monthly charge is \$21.63 per month. A very large commercial or industrial lot owner (more than 10 acres) pays \$824.49 per month. Credit of up to 45% can be earned based on installed flood prevention controls (stormwater management pond, rooftop, parking, or underground storage, a green roof, and more), pollution reduction controls (an oil/grit separator, pond, bio swale, salt management plan, and more), and education plans.

To date, some 1,750 residents have received credit for their lot-level measures. Many of the initial applications were of course by residents who had had their rain barrels all along, but increasingly the uptake has been by residents who have taken such measures more recently, i.e., the program is beginning to influence behaviour. Waterloo officials believe that this level of participation could easily increase from the current 8% to 20%. On the non-residential side, some 60 businesses have earned credit to date. While the incentive is not enough to persuade shopping malls to tear up their seas of asphalt, as renovations take place the program is having an effect.

Waterloo's consultation process that led to these changes is impressive. Ideas that emerged from the public became part of the final design. Transparency and clarity prevail to this date.

What about Ottawa's rural areas

Our extensive rural areas present a complex picture: Many rural residences have their own wells and septic fields and therefore do not help pay for the cost of stormwater management in the way residents who receive a water bill do; others have one but not the other. Some infrastructure elements such as ditches and swales may be privately owned and controlled, or are financed by local improvement charges. Certain road maintenance work also serves stormwater management but how the City is accounting for this is not clear.

The City's proposals do not come to grips with this complexity and finding out who pays how for what is fiendishly difficult. It would appear that the City has more homework to do to clarify the status quo and seek consensus on a fair solution.

Why minimizing stormwater run-off is good for man and nature

The controversy over a stormwater fee is obscuring a key point: Controlling stormwater volumes at the lot level delivers proven benefits. They come in addition to improved quality of the run-off and include reduction of peak flows, reduced flooding, reduced erosion and sedimentation in receiving water bodies, improved groundwater recharge, better aquatic habitat and greater resilience to climate change.

Reducing stormwater run-off at source is also good for the City's finances: Storm sewers suffer less wear and tear, sediment in stormwater ponds accumulates less rapidly and creek erosion is reduced,

resulting in less maintenance and rehabilitation costs.

The current review of the City's water rate structure seems geared exclusively at tapping into new revenue streams and ignores the opportunity to move us one step closer to a more sustainable way of living. The opportunity should not be wasted.

Erwin Dreessen is co-chair of the Greenspace Alliance of Canada's Capital