INSIGHTS INTO A RAINWATER HARVESTING POLICY

SPEAKER

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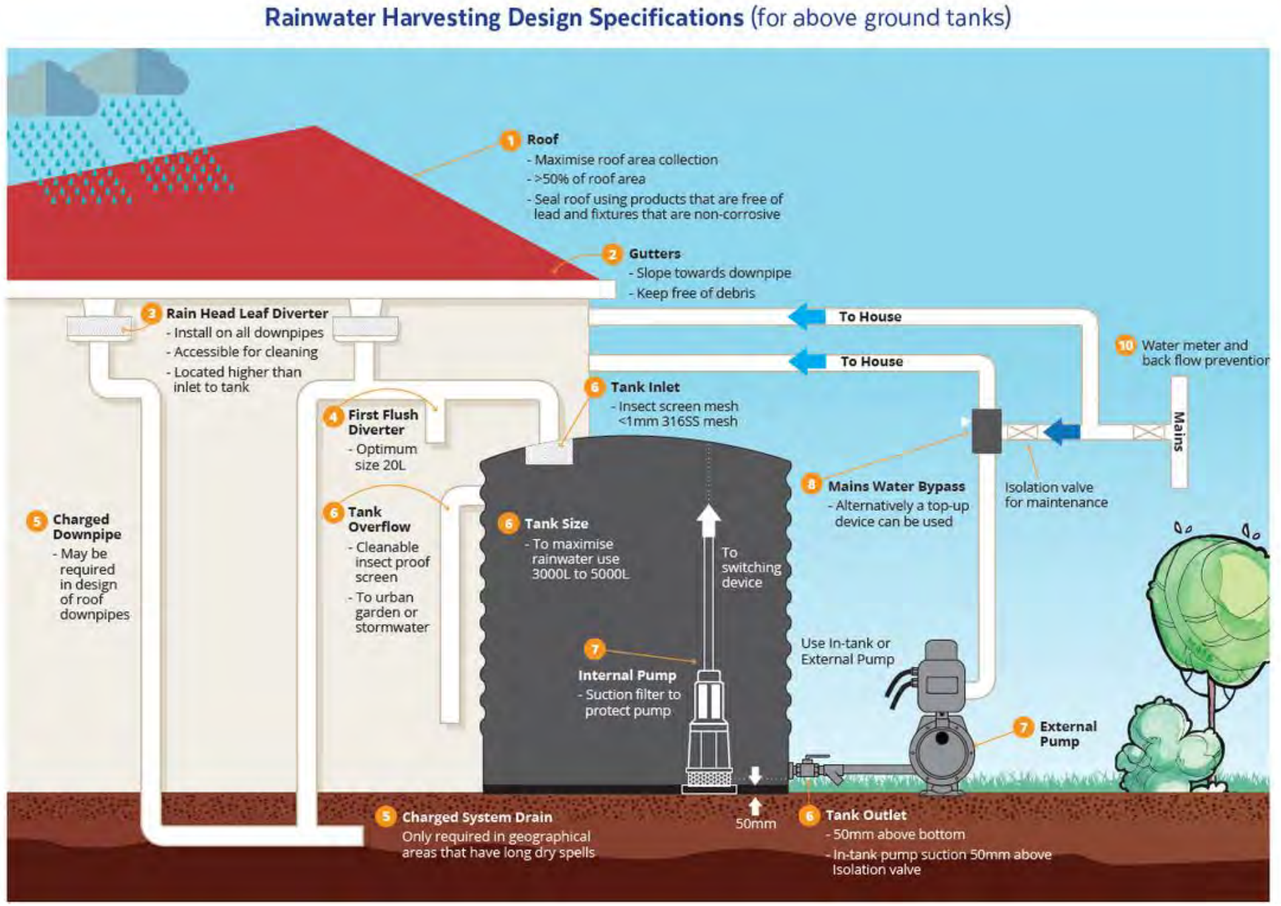
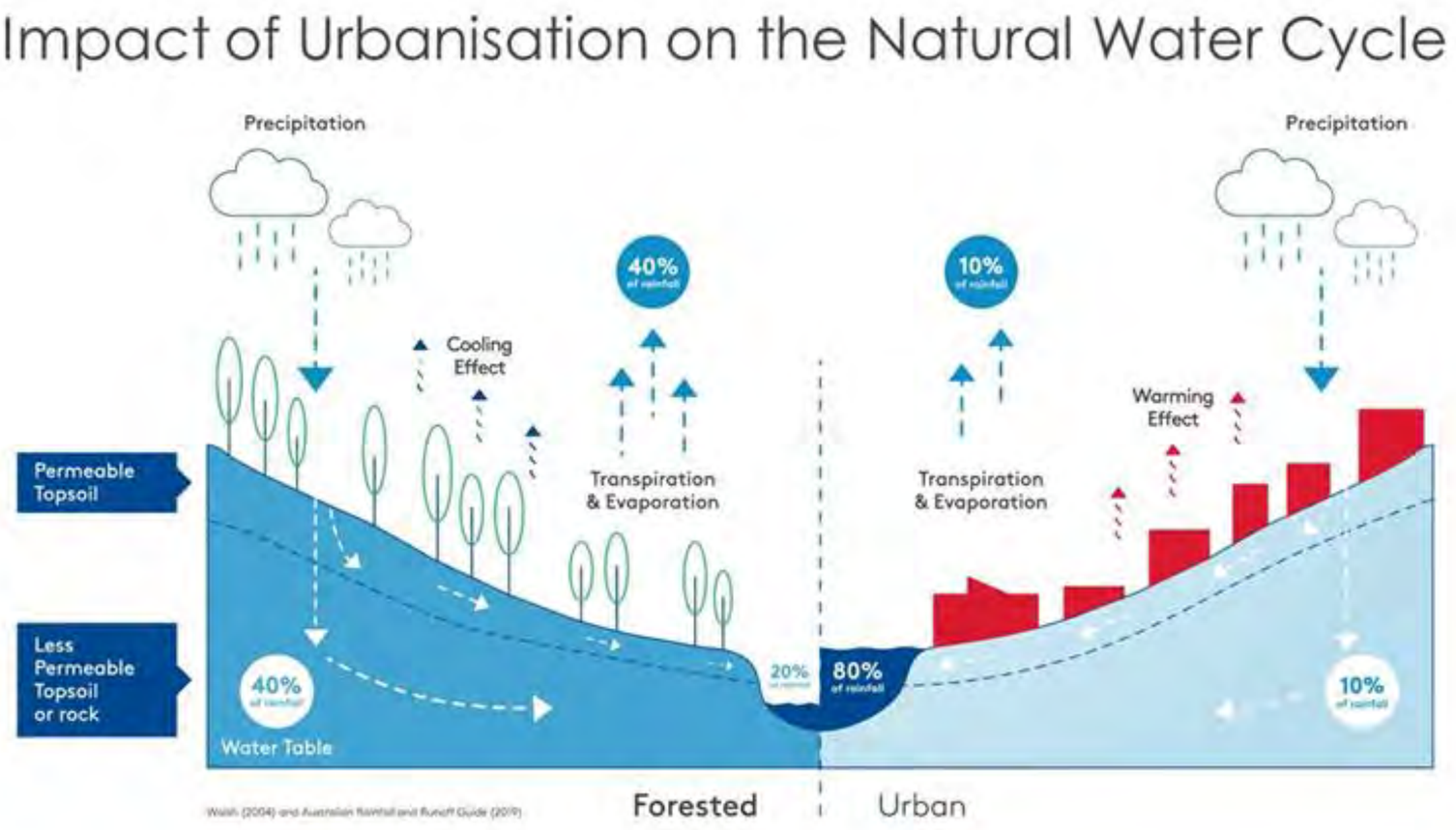
STRUCTURE

1. BENEFITS
2. POLICY INSIGHTS
3. HEALTHY CITIES AND CATCHMENTS
4. SAVING MUNICIPAL WATER
5. UNDERSTANDING AND SUPPORT
6. SUMMARY



Rainwater Harvesting Guide: Residential Design Specification (2018)

URBANISING THE NATURAL WATER CYCLE



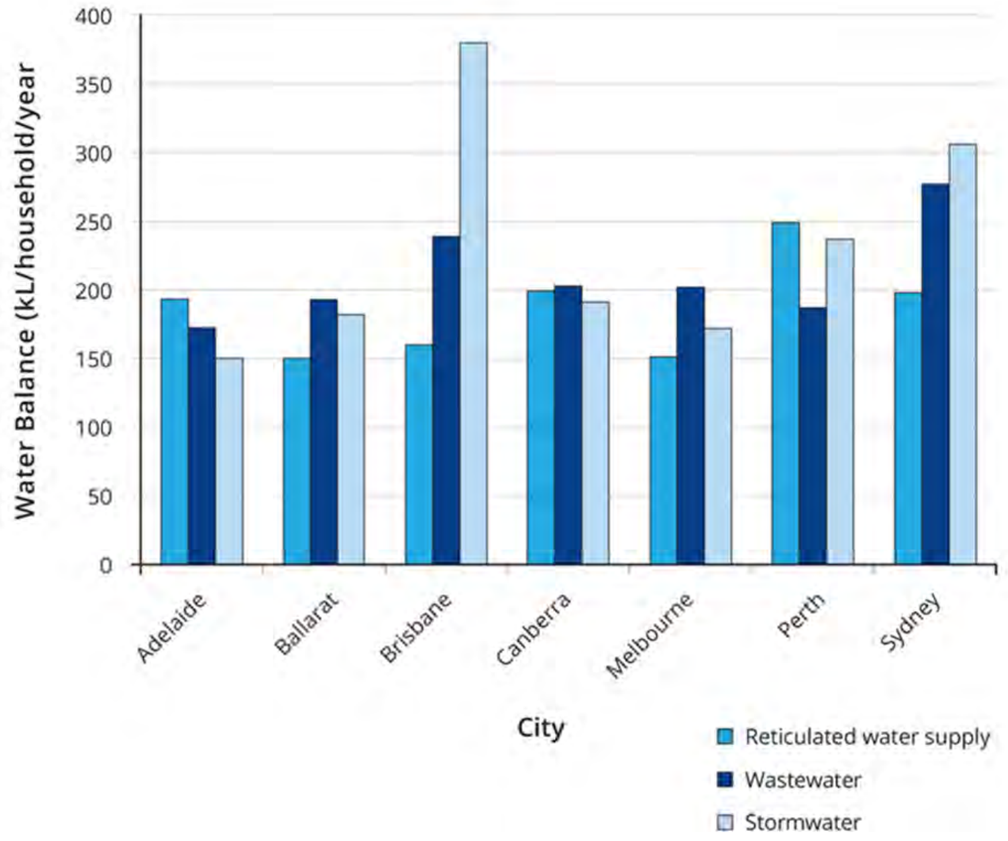
Walsh (2004) and Australian Rainfall and Runoff Guide (2019)

Diagram by Kingspan Water & Energy Pty Ltd

SYSTEMS URBAN WATER BALANCE

Figure 1

Average Annual Water Balances from Households in Adelaide, Ballarat, Brisbane, Canberra, Melbourne, Perth and Sydney[1]



[1] Coombes, P., & Russo, S. (2019). 2019 Runoff in Urban Areas, Ch 3. The Philosophy of Urban Stormwater Management, Book 9 The Australian Rainfall and Runoff Guidelines. Commonwealth of Australia (Geosciences Australia), Australia.

RESILIENCE

Decentralised assets like rainwater harvesting can be modified and adapted to suit local needs in drought, bushfires, earthquakes or threats to the urban water supply. Rainwater harvesting is already plumbed into buildings and can be an essential local storage solution.

RESPECTING COUNTRY

Barwaka country defines itself as “the land, the water, the animals, the plants, the rocks, the thoughts, the songs, the people and the ways they relate to each other” (Barwaka Country et al, 2015:271).That is, country is a web of relationships.

Rainwater harvesting, as a form of water storage that potentially restores flow patterns, doesn’t require/rely on permanent structures on riverbanks and beds, and floodplains and may be regarded a “tread lightly” water management solution that respects country.

BALANCING WATER CORPORATION AND COMMUNITY INTERESTS

Water Corporations have a one dimensional financial incentive to build water supply infrastructure in preference to all other solutions. The community bears the cost. (Coombes 2024).

As a result, the water industry presents a very narrow range of options for the community to consider. Governments need to understand and declare commercial interests and balance these interests based on the public good.

INSIGHTS INTO POLICY

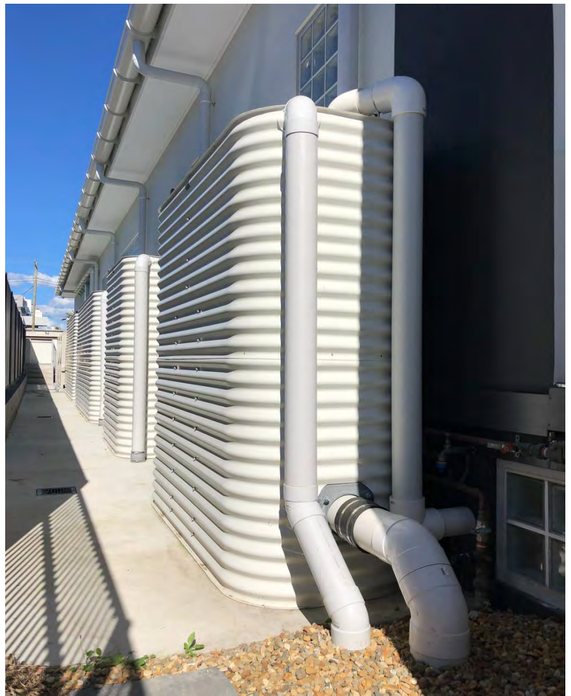
HOUSING TYPE	ROOF CATCHMENT AREA	TANK SIZE	USAGE
Detached housing	150sqm roof catchment	5000 litre tank	connected to toilets, laundry and outdoor taps
Semi-detached housing	100sqm roof catchment	3000-litre tank	connected to toilets, laundry and outdoor taps
Unit housing	18sqm roof catchment	2500 litre tank	connected to toilets, laundry and outdoor taps
Non-residential buildings based on eight classes of land use	100sqm roof catchment	2000 litre tank	connected to toilets and other indoor and outdoor water applications

INSIGHTS INTO THE POLICY FRAMEWORK

- Based on volumetric measures for rainwater, municipal water and stormwater, volume is the key driver for all costs and benefits (kilolitres/annum)
- Policy recommends rainwater harvesting as a first response for new and renovated buildings. Alternate solutions supported based on meeting the performance targets
- The policy is applied at the lot scale.
- Design and maintenance consistent with Design Specification.

POLICY TARGETS AND PERFORMANCE INDICATORS

- Reduction in stormwater runoff of 30% for all properties (detached, semi-detached and units)
- A 45%-60% reduction in annual water demand is feasible across all properties, 34% from rainwater harvesting and the remainder from five-star water-efficient appliances.



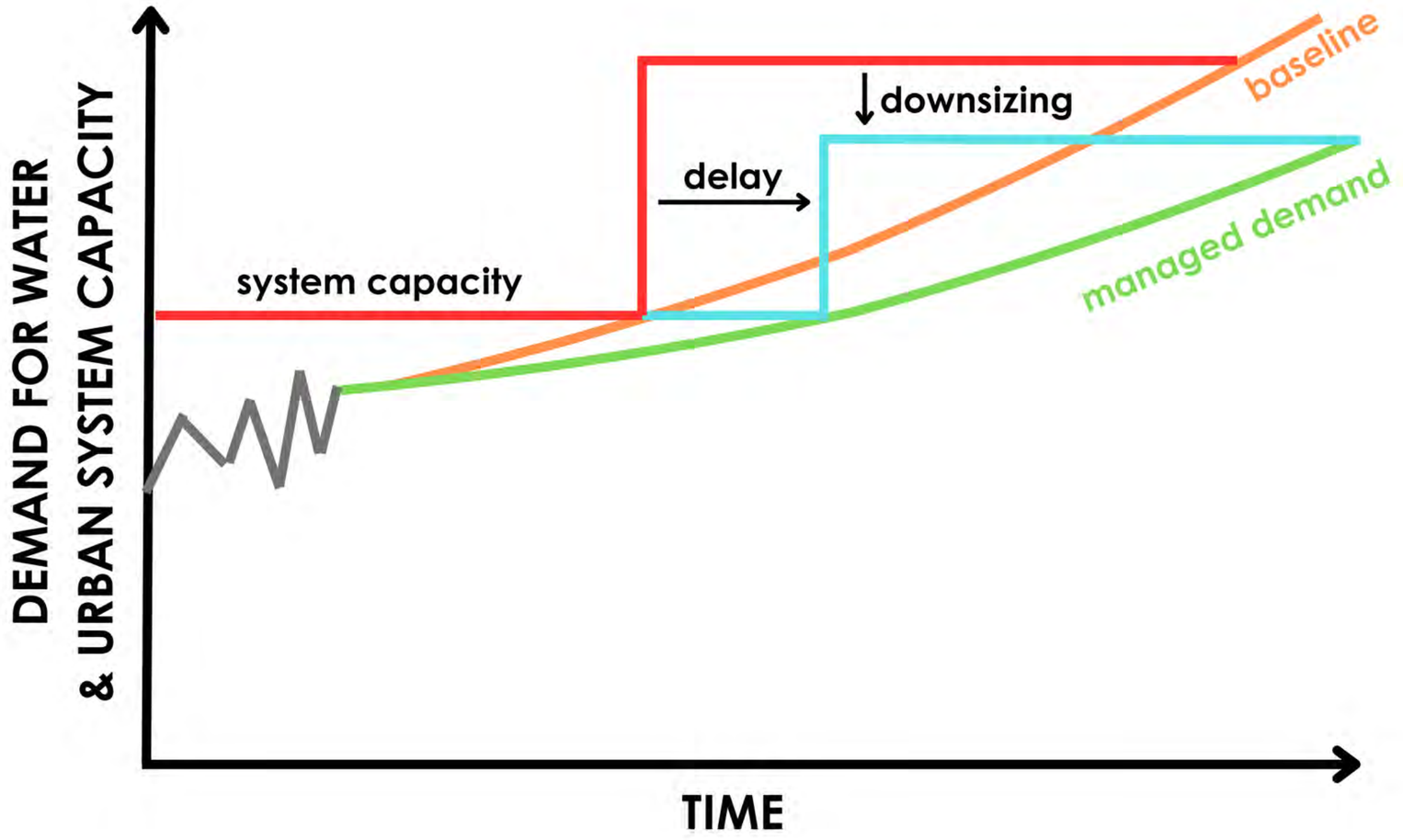
HEALTHY CITIES AND CATCHMENTS

Rainwater harvesting supports safer cities, healthy catchments, and water bodies by reducing the volume of stormwater our cities produce. Stormwater volume is the primary determinant of flooding and its damaging impact on our natural environment.

SAVING MUNICIPAL WATER

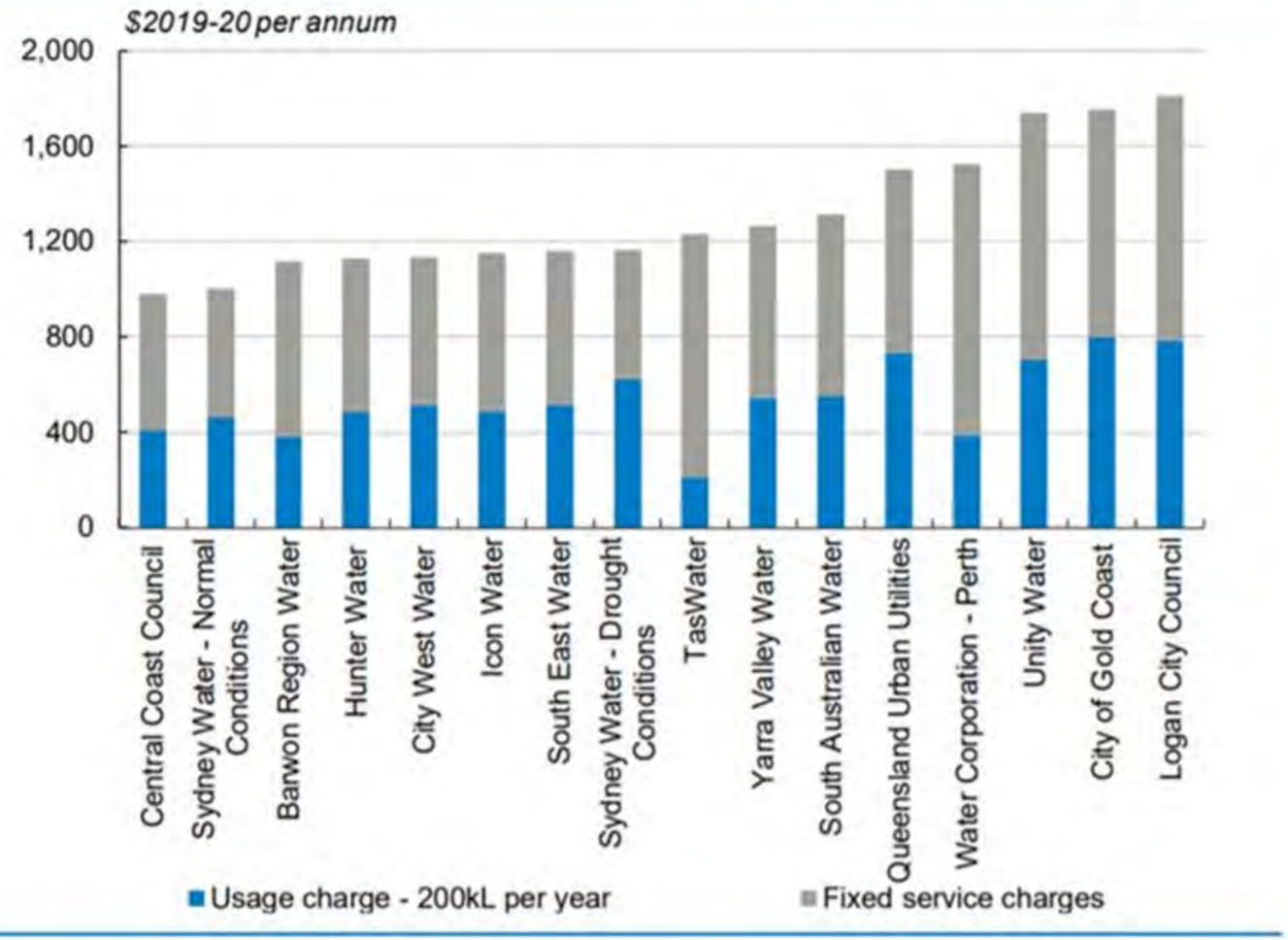
Municipal water infrastructure is a capital, resource, and energy-intensive asset. Alternative solutions like rainwater harvesting are less expensive but do not meet all our water needs. Rainwater harvesting is a first response reducing the need for much larger investment in more expensive water infrastructure.

SAVING MUNICIPAL WATER



SAVING MUNICIPAL WATER

Figure 14.5 Combined water and wastewater bills for households with 200kL of usage



UNDERSTANDING AND SUPPORTING
Rainwater Harvesting Systems

Looking after rainwater harvesting systems so they look after us, its an investment in our future

- Provide access to design guidelines and maintenance schedules for rainwater harvesting systems.
- Promote the benefits of rainwater harvesting through brochures, reports, media.
- Provide practical support for rainwater harvesting, including services and community incentives.

SUMMARY

Rainwater Harvesting as a first response, using natural resources and balancing our reliance on just building water supply infrastructure.

Rainwater Harvesting outperforms all other urban water supply solutions because it reduces stormwater volume.