WATER SENSITIVE SA

WSUD in your home and garden

July 2021

Topics

Context

- Water sensitive urban design principles
- Urbanisation and changes in catchment hydrology

WSUD | Inside the home

- Rainwater harvesting and re-use
- Greywater

WSUD | Outside the home

- Permeable and porous paving
- Infiltration systems
- Vegetated swales and buffer strips
- Raingardens and plant species selection

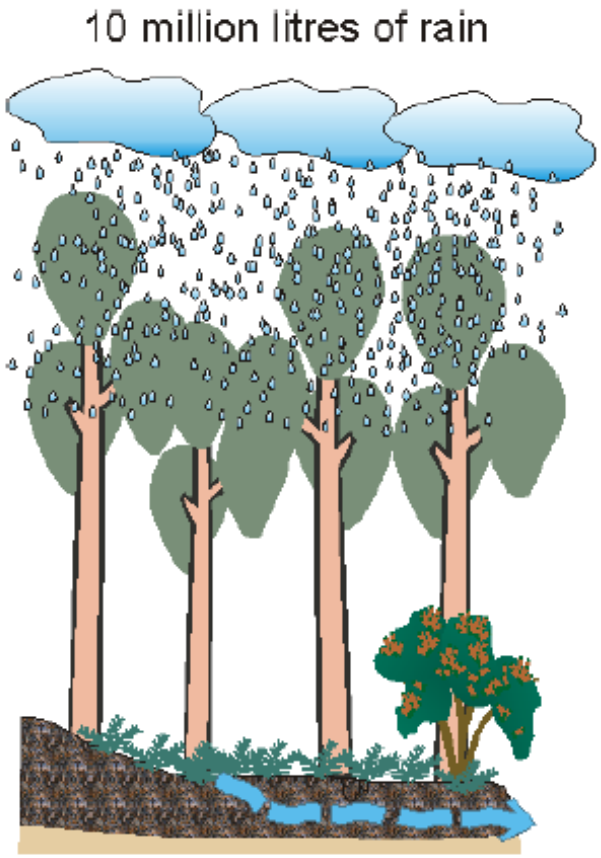
Case studies

Principles of water sensitive urban design

- Re-integrate water back into urban landscape – create microclimate
- Re-use of water at source (or close as possible)
- Protect receiving water quality (streams and marine)
- Fit for purpose water use

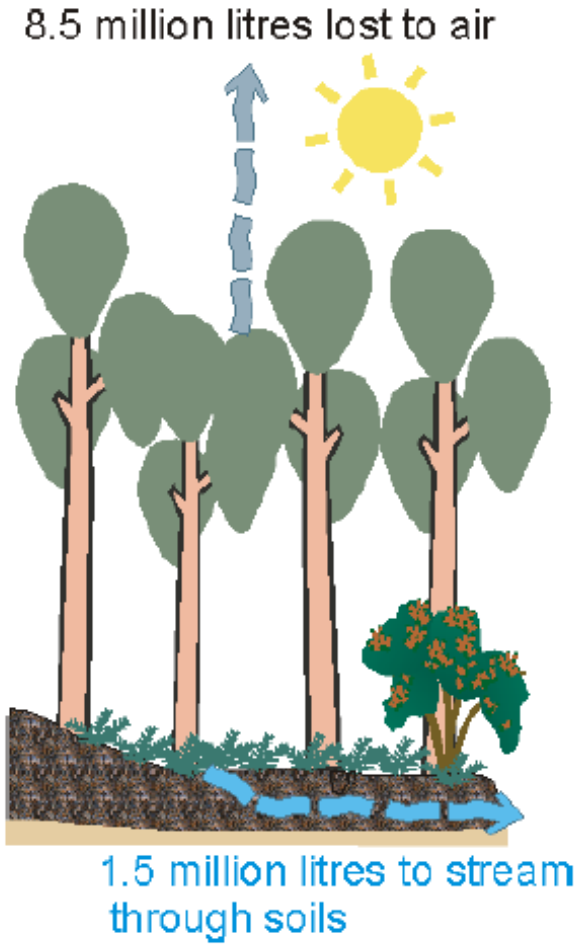
Urbanisation & changes to catchment hydrology

Water on a hectare of forest over a year



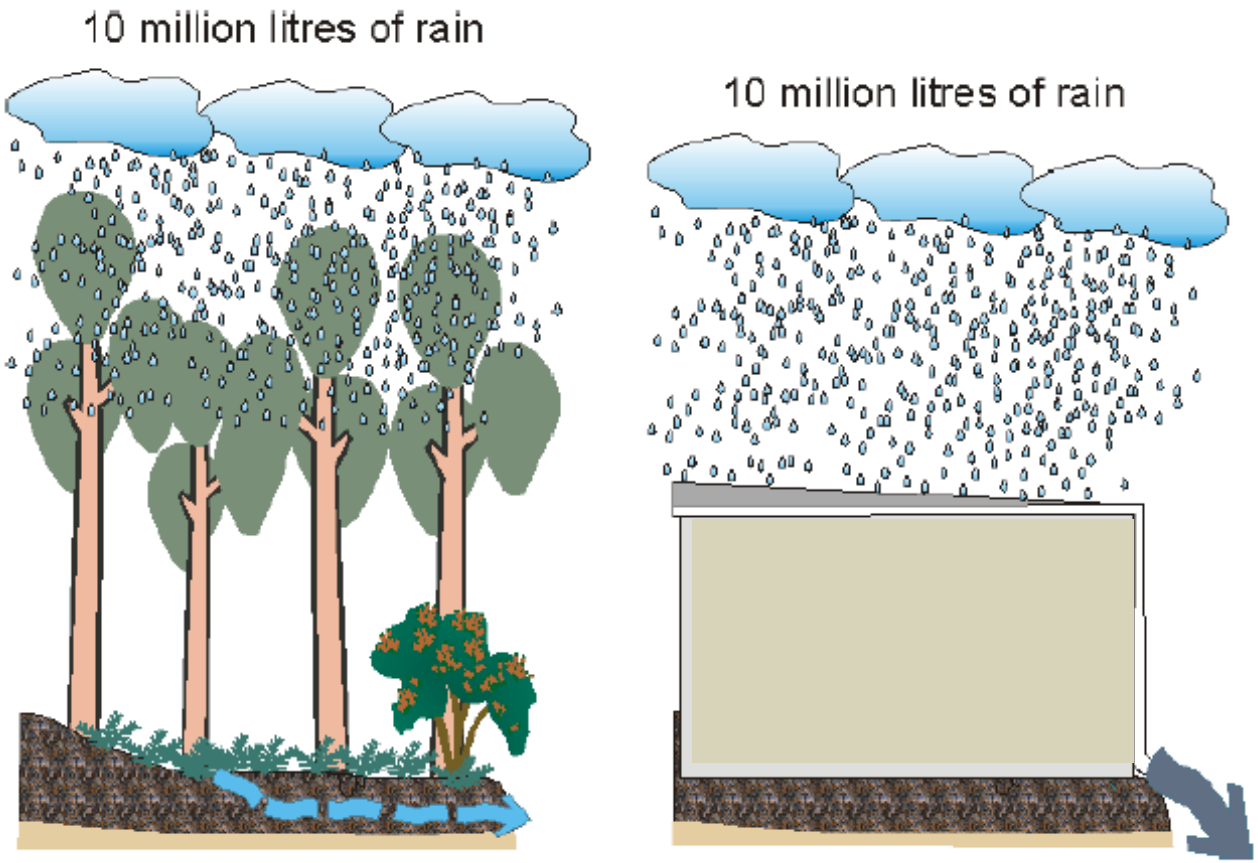
Source: Centre for Water Sensitive Cities

Water on a hectare of forest over a year



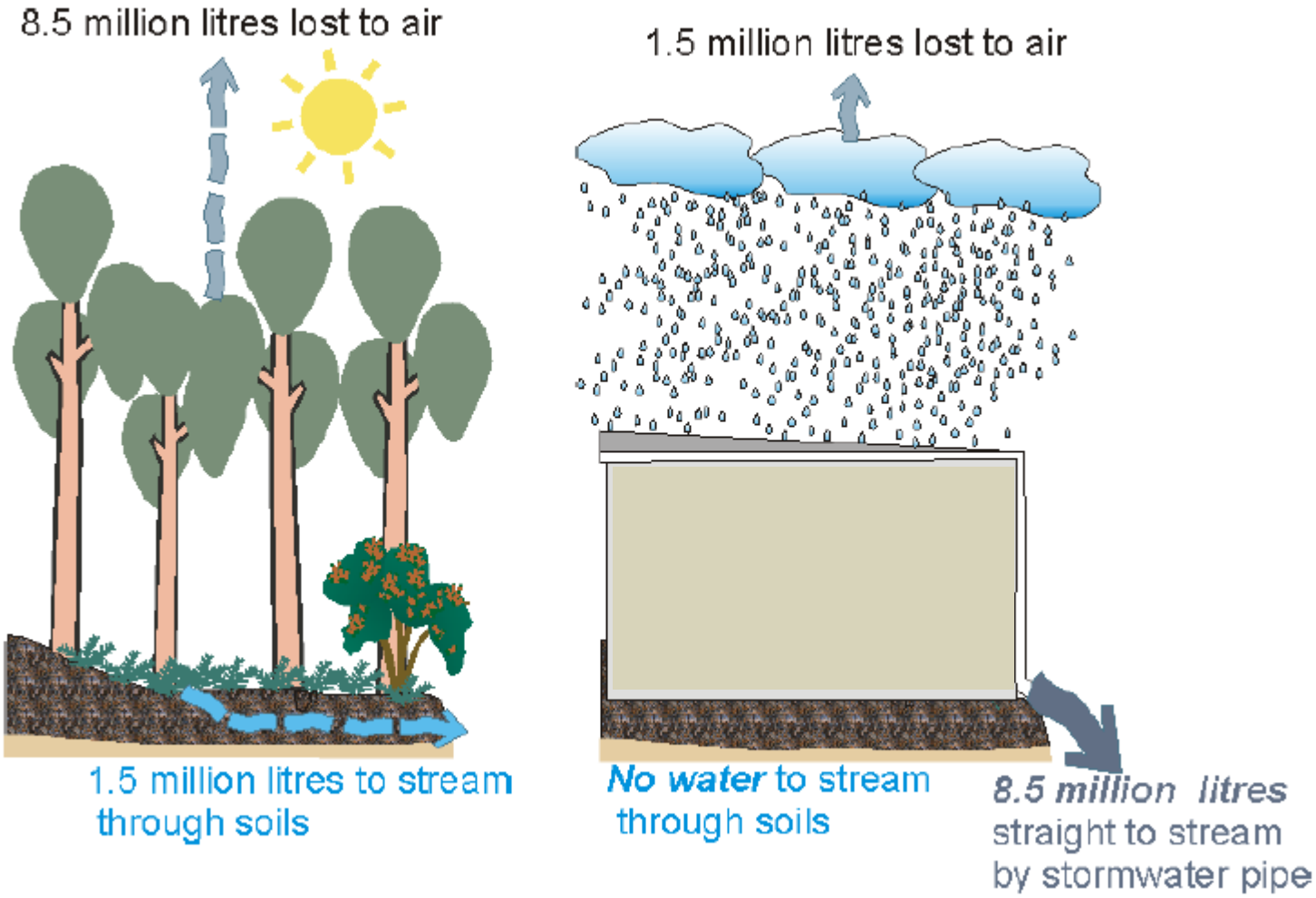
Source: Centre for Water Sensitive Cities

Replace the forest with a building



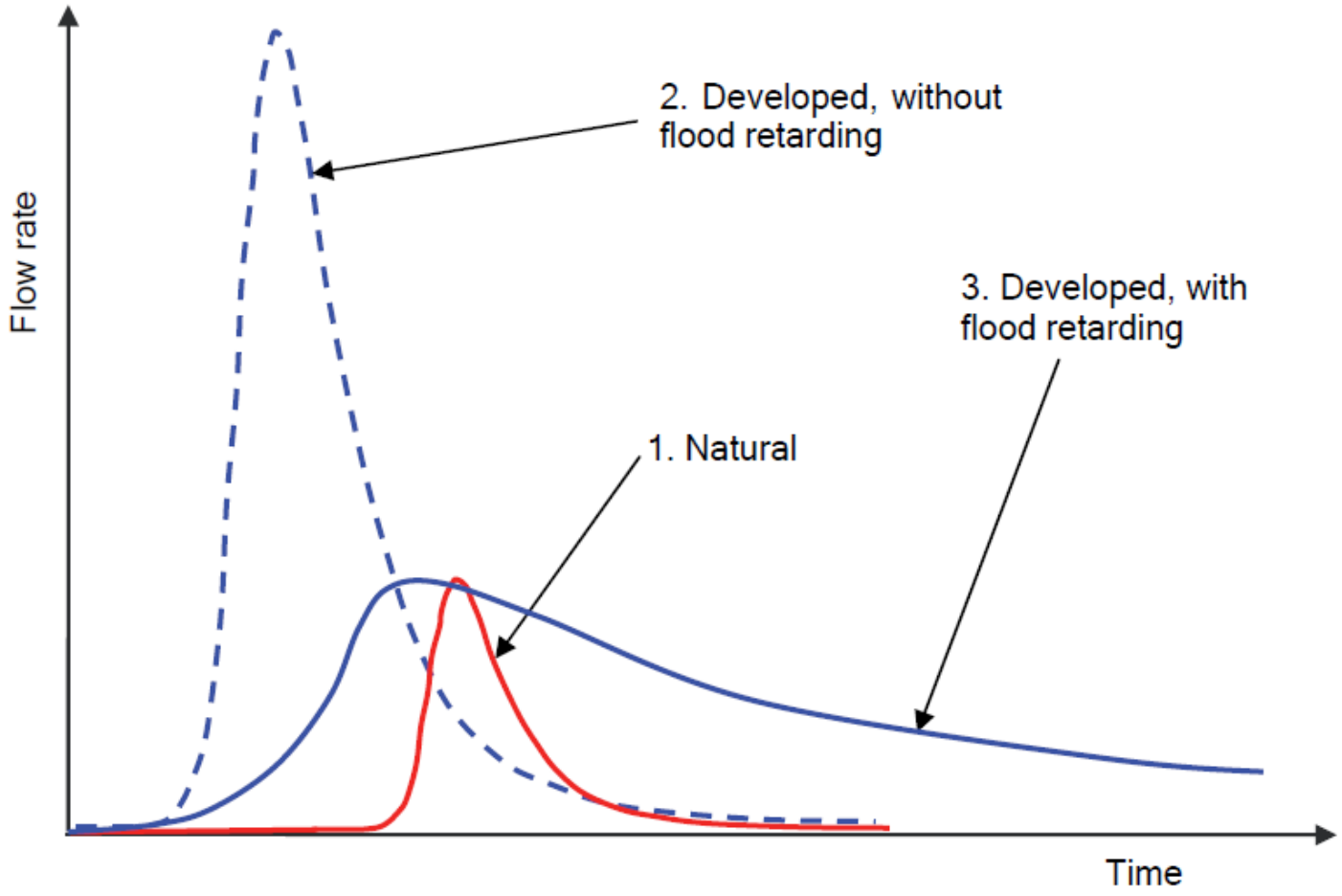
Source: Centre for Water Sensitive Cities

Stormwater runoff a BIG flow problem

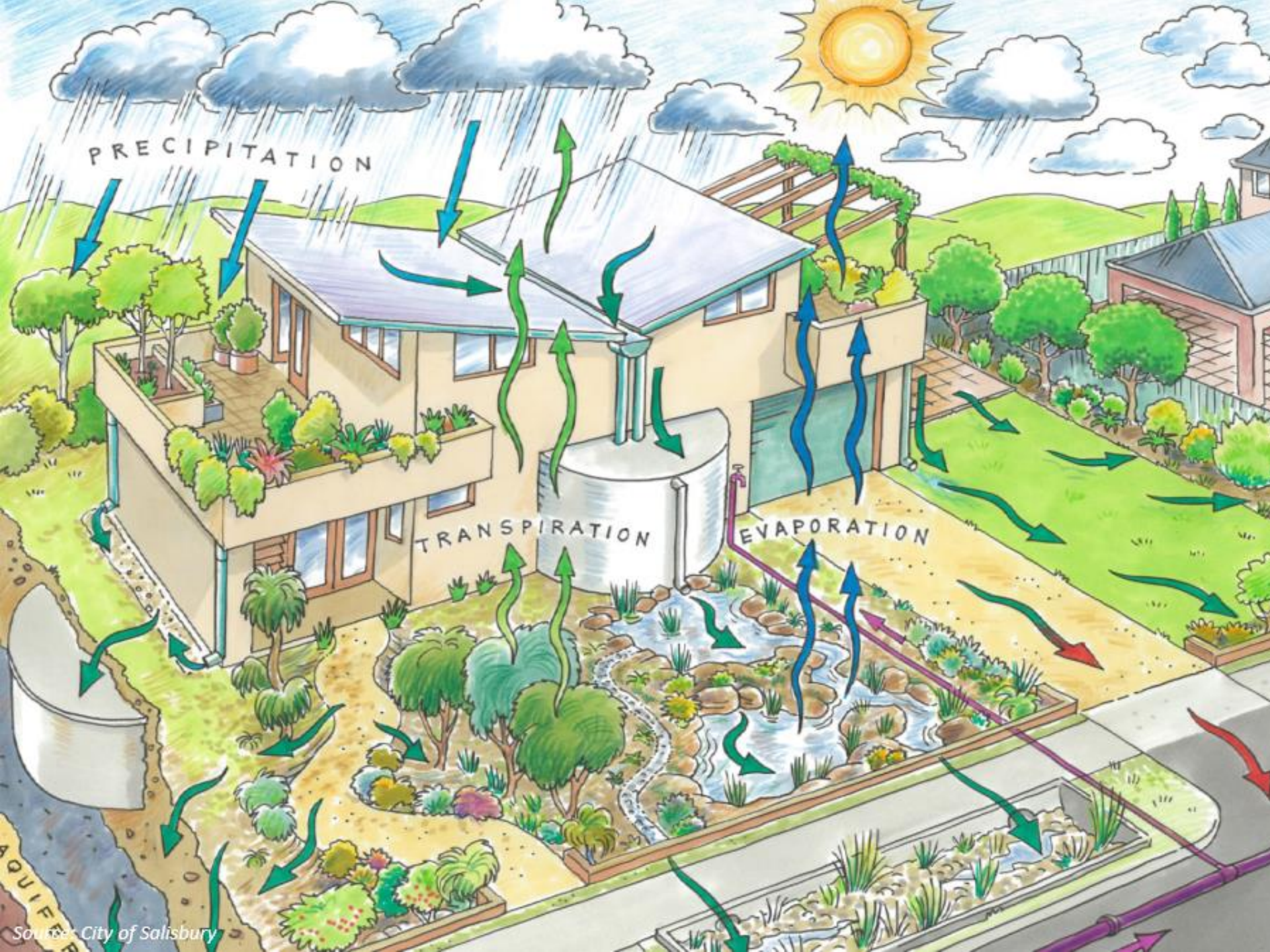


Source: Centre for Water Sensitive Cities

Change to hydrograph



Typical storm flow hydrographs before and after development



Source: City of Salisbury

Addressing multiple criteria

	 VOLUME	 FLOW	 QUALITY	 EFFICIENCY
Objective	Harvest or infiltrate stormwater	Control peak discharge flows	Improve stormwater runoff water quality	Increase drought resilience
Typical solutions				
Rainwater (retention) tanks	✓	✓	✓	✓
On-site detention (OSD)		✓		
Permeable paving	✓	✓	✓	
Infiltration systems	✓	✓	✓	
Unlined swales	✓		✓	
Biofiltration, e.g. raingardens			✓	
Water efficient fixtures with high WELS ratings				✓
Recycled water plumbed to toilets and outdoor uses				✓
Water efficient irrigation systems				✓