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SUSTAINABLE WATER MANAGEMENT

From policy to implementation

Chris Tanner, David Hamlyn-Harris
& Alan Hoban

Outline

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- Introduction
- Sustainable water management
- Australia’s journey
- Indonesian water road map
- Close

Drought



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Flood
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Sustainable Water Management

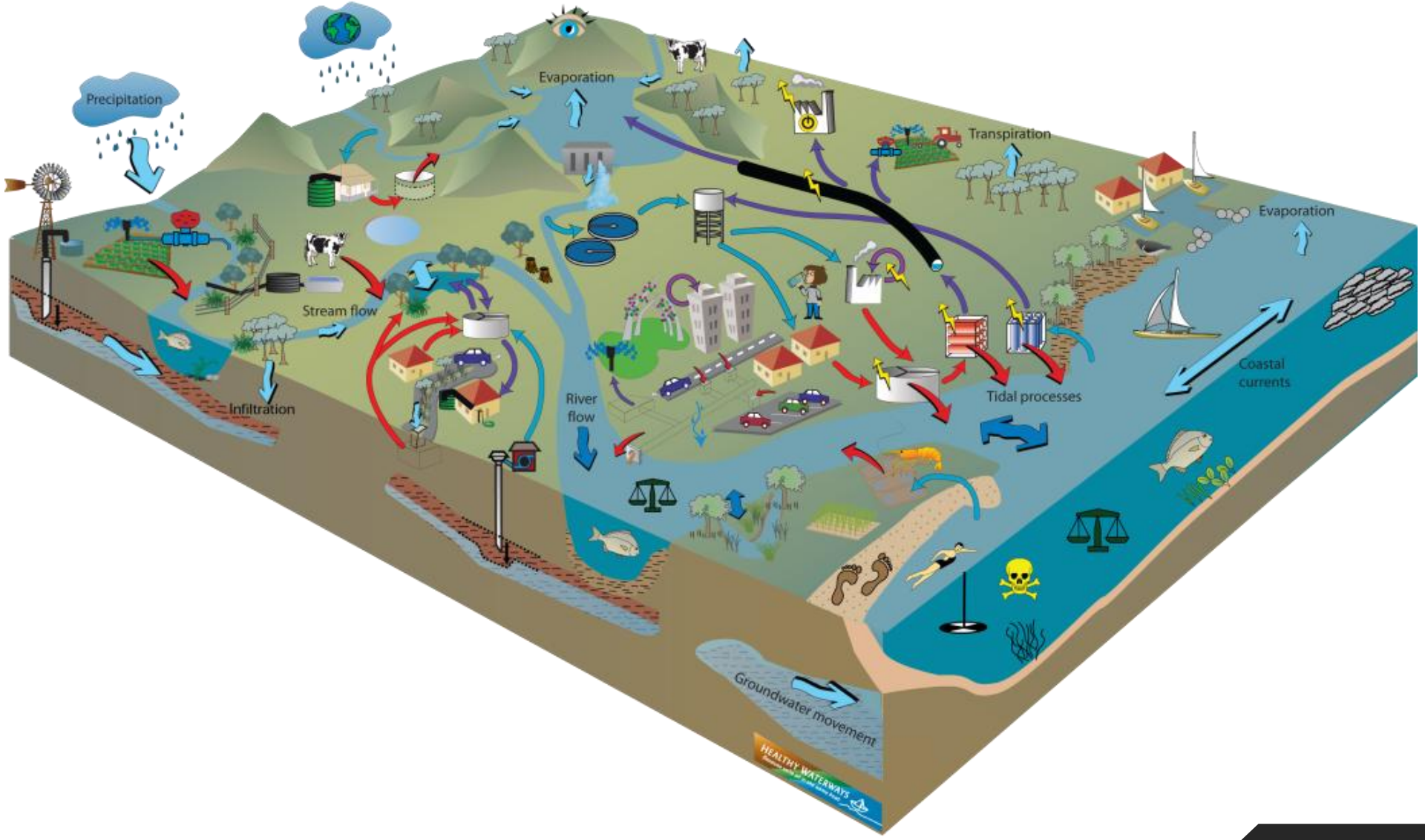
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- Water that is fit for purpose
- Water conservation
- Discharge to match natural conditions
- ??

- But how to get there?
- How to adapt to changing drivers?

The Water Cycle

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The Water Cycle

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Australia’s Journey

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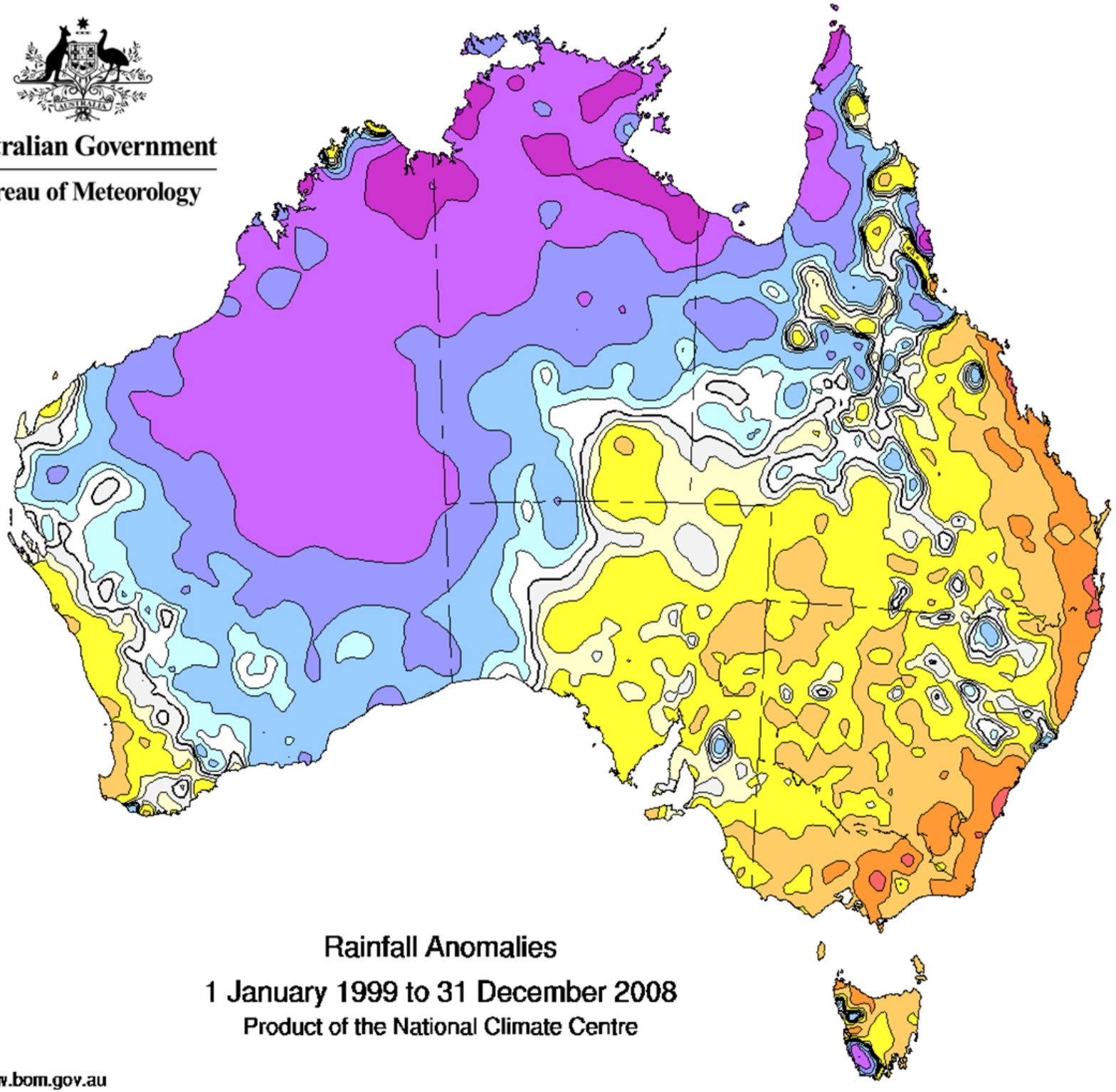
- Need for change
- Policy
- Implementation / Case studies

Need for Change

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Australian Government

Bureau of Meteorology



Rainfall Anomalies

1 January 1999 to 31 December 2008

Product of the National Climate Centre

http://www.bom.gov.au

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ID code: IGMapOprBarnesRainAust

Issued: 17/06/2009

Water Balance (demand reduced by 30 l/p/d)

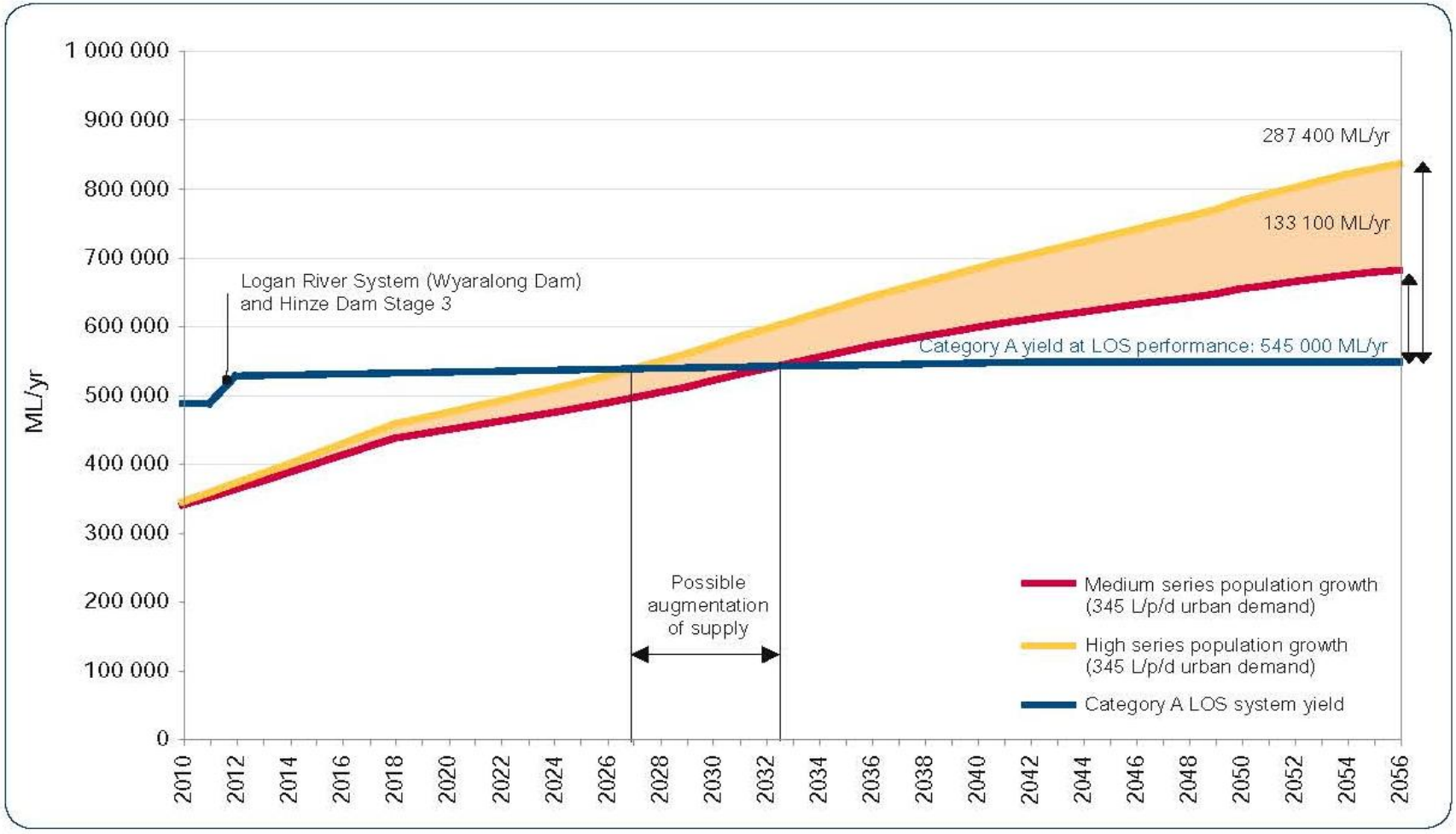


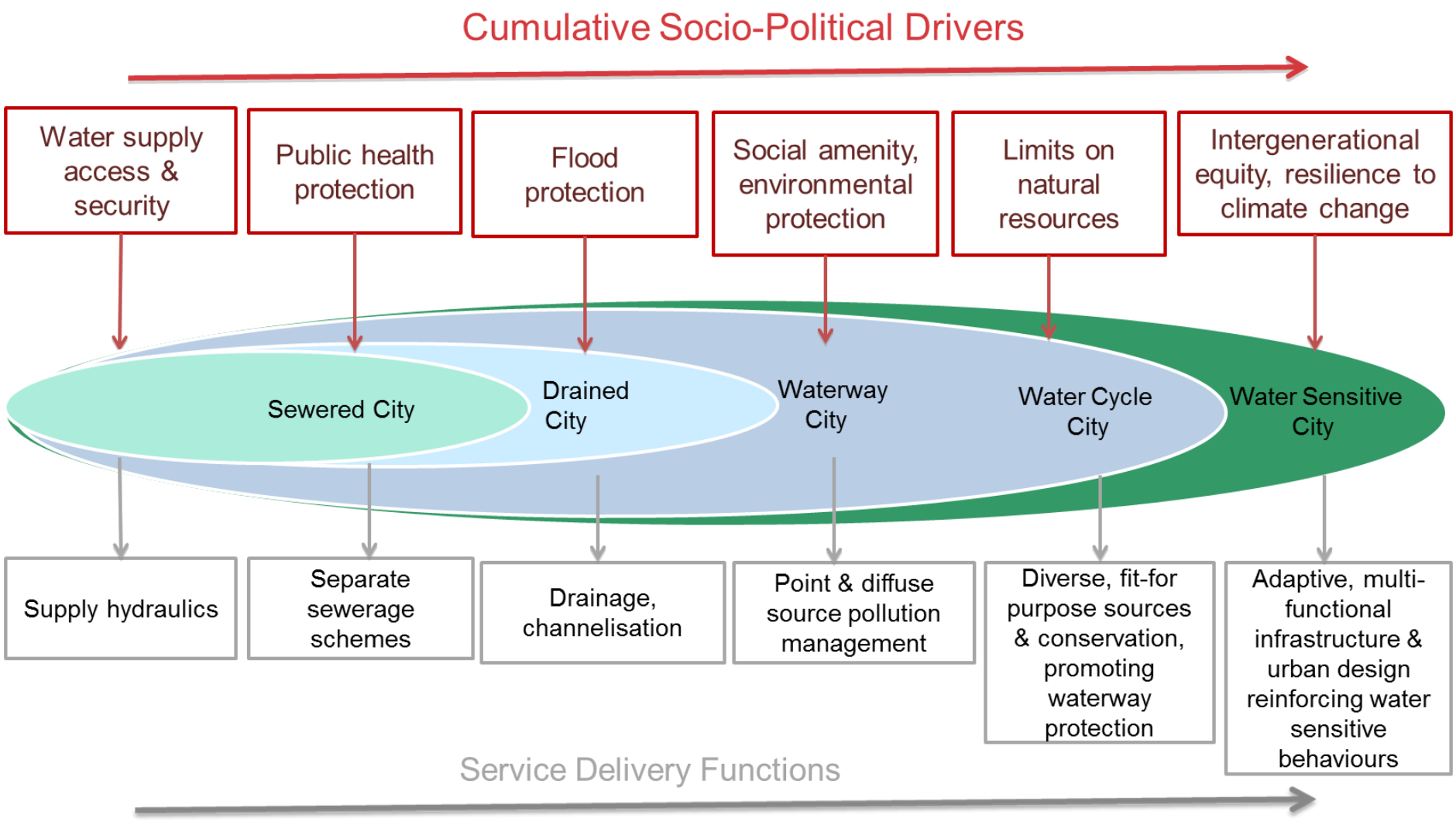
Figure 6.2 Impact of reducing average total consumption by 30 litres per person per day

Policy

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Transitioning to the Water Sensitive City?

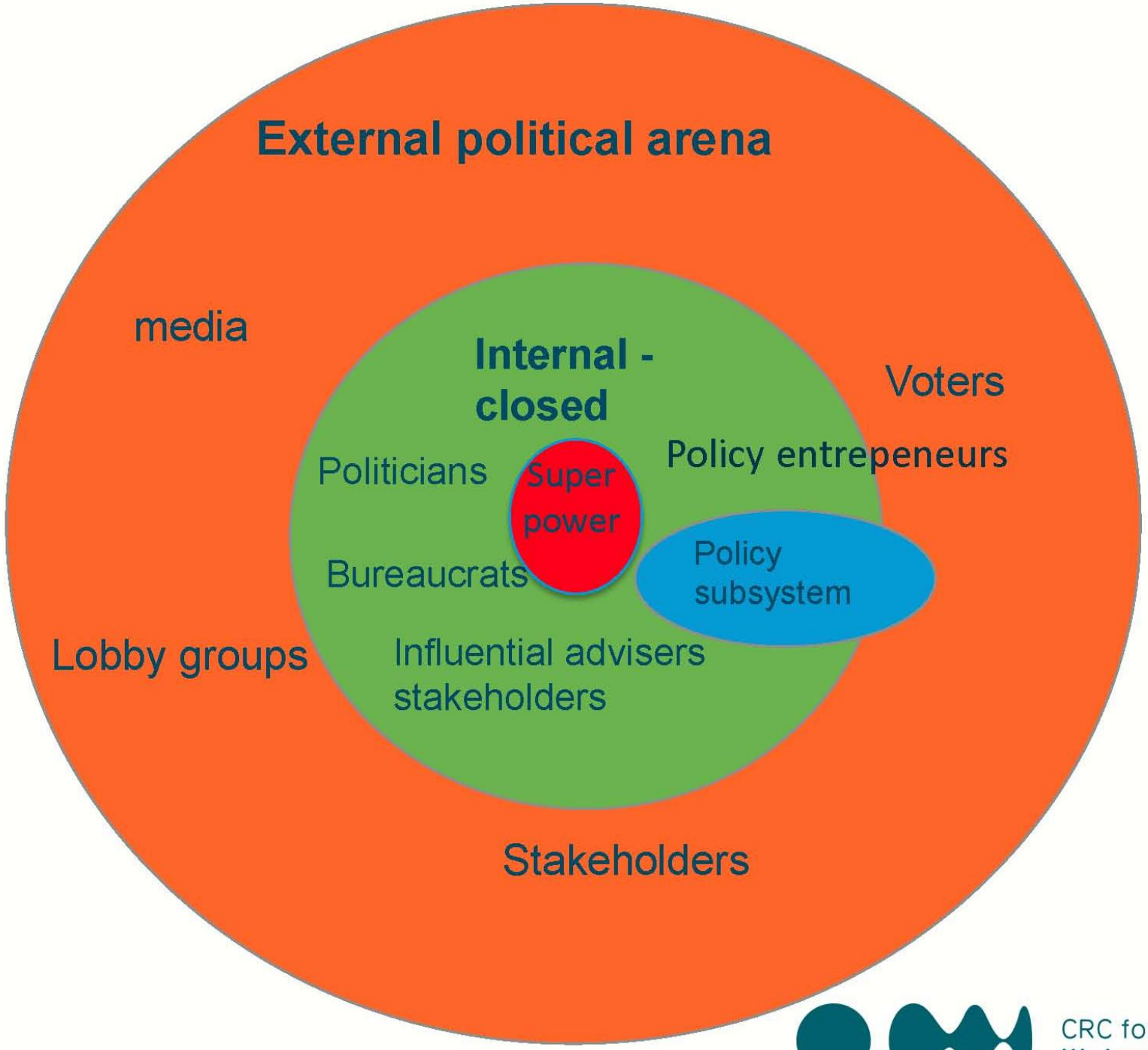
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Source: Rebecca Brown

The external and internal political arenas

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CRC for Water Sensitive Cities

Getting the Message Across

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Selling the dream - complex long term issues

- Community engagement
- Behaviour change
- Media strategy

Community strategy

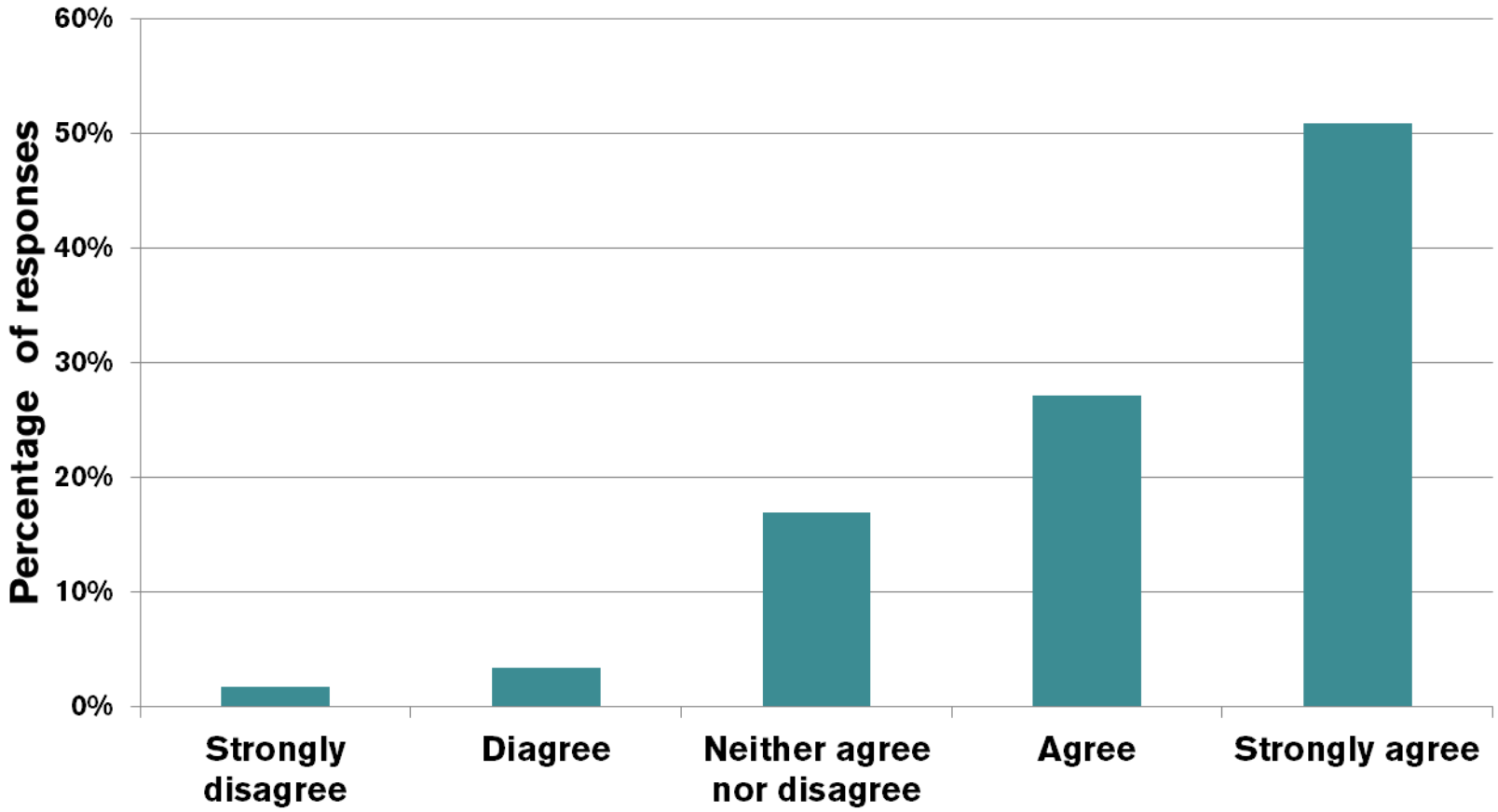


CRC for Water Sensitive Cities

Understand Community Attitudes

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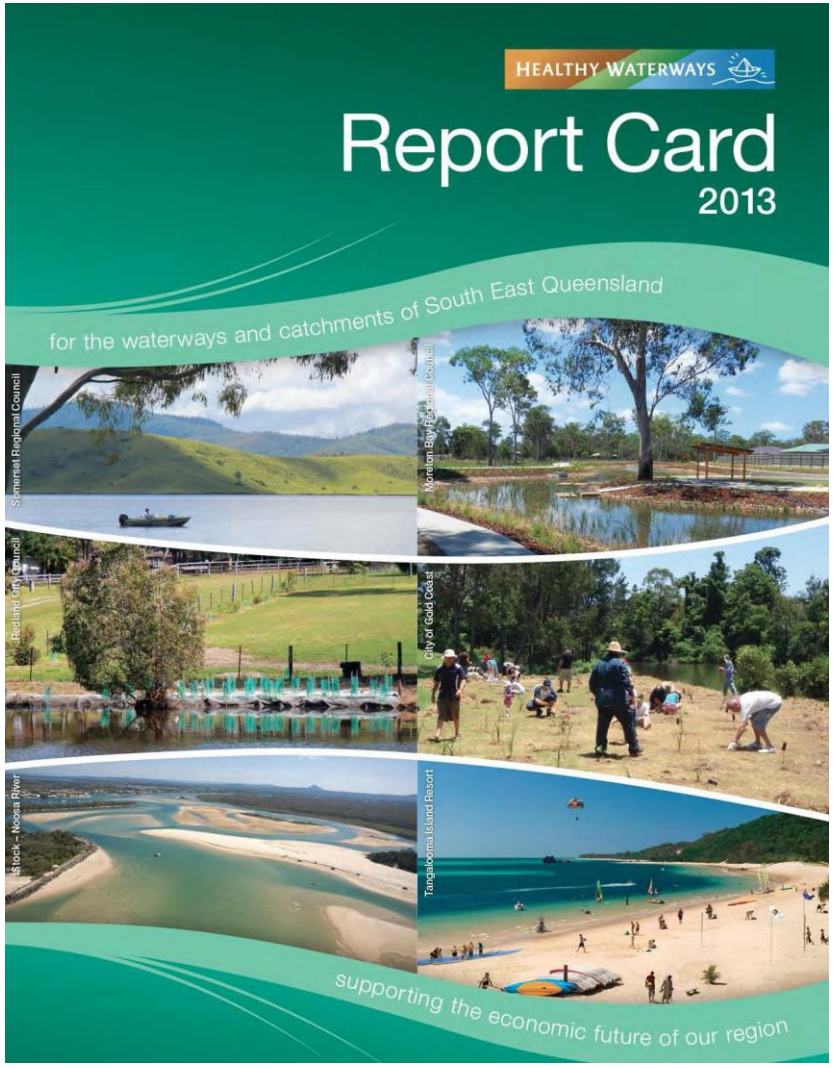
Raingardens should be included in all new developments

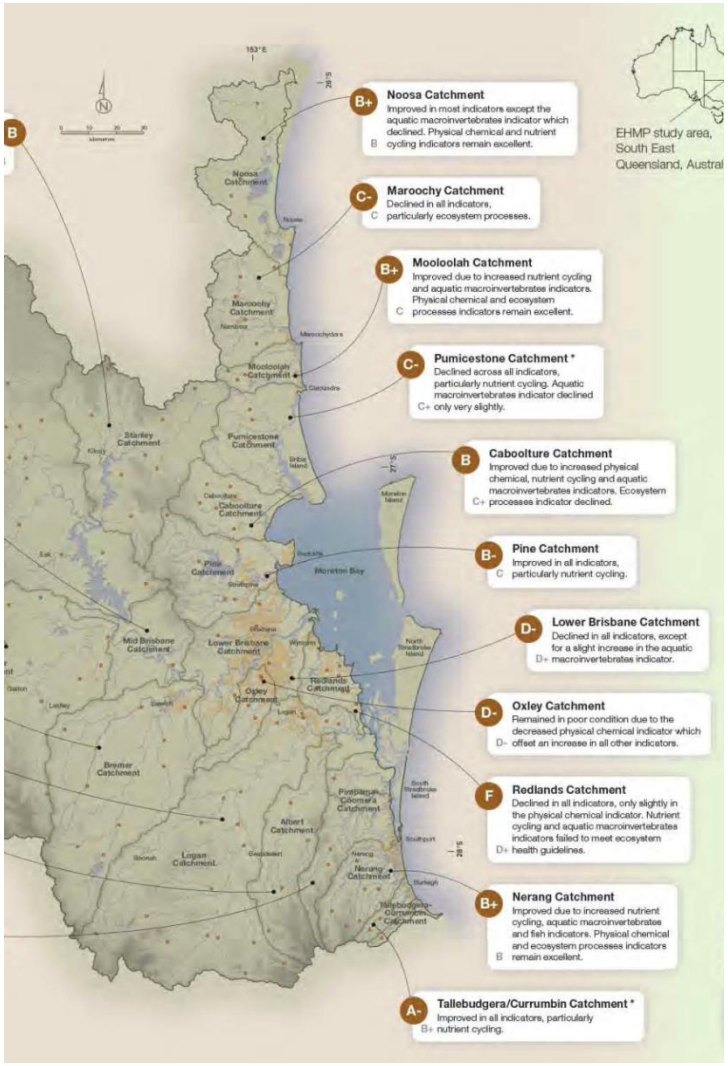


Survey of residents at Bellvista Estate that have raingardens in their local streets, undertaken January 2011.

Healthy Waterways Report Card

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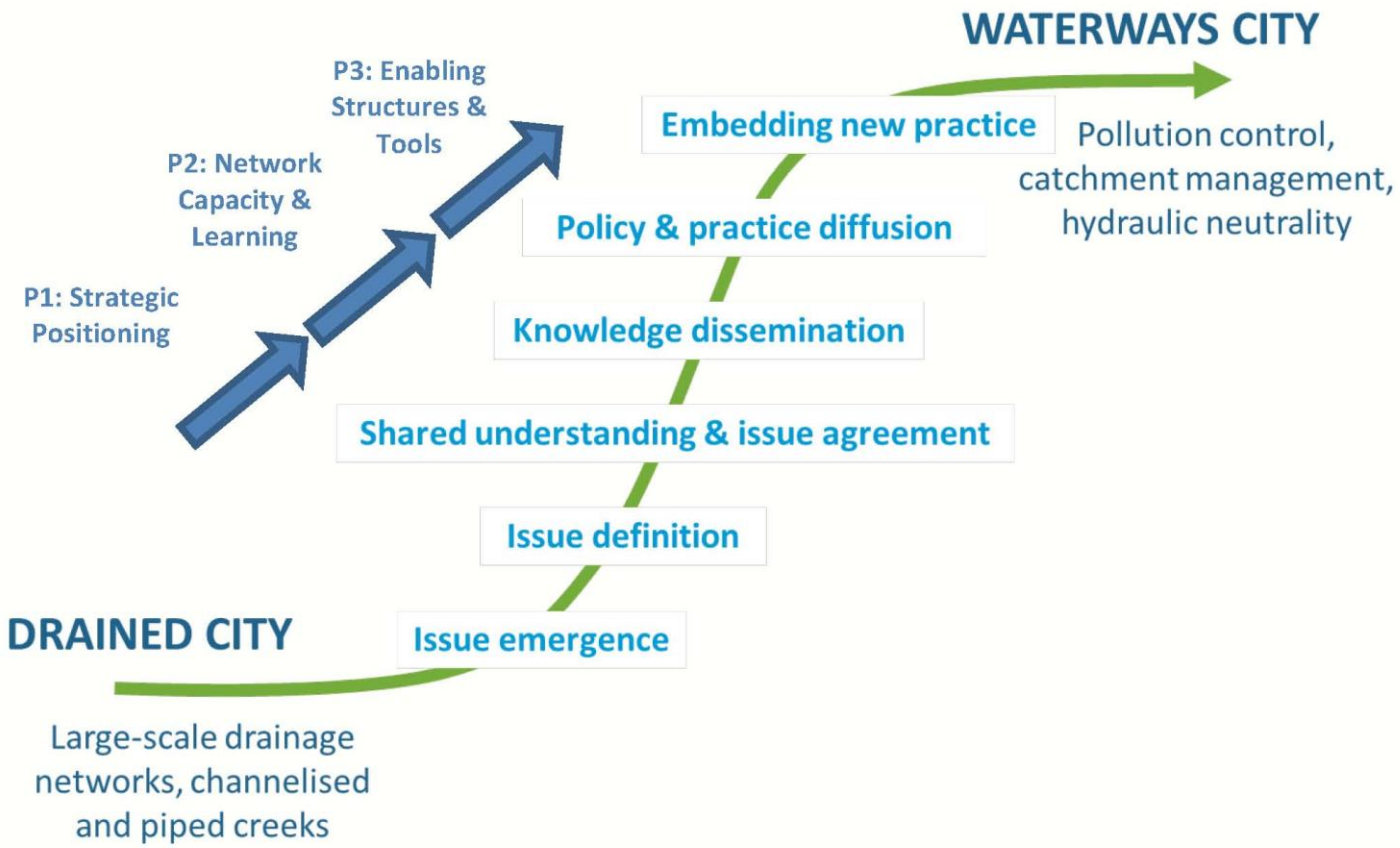




Transitional Steps

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Recommendations

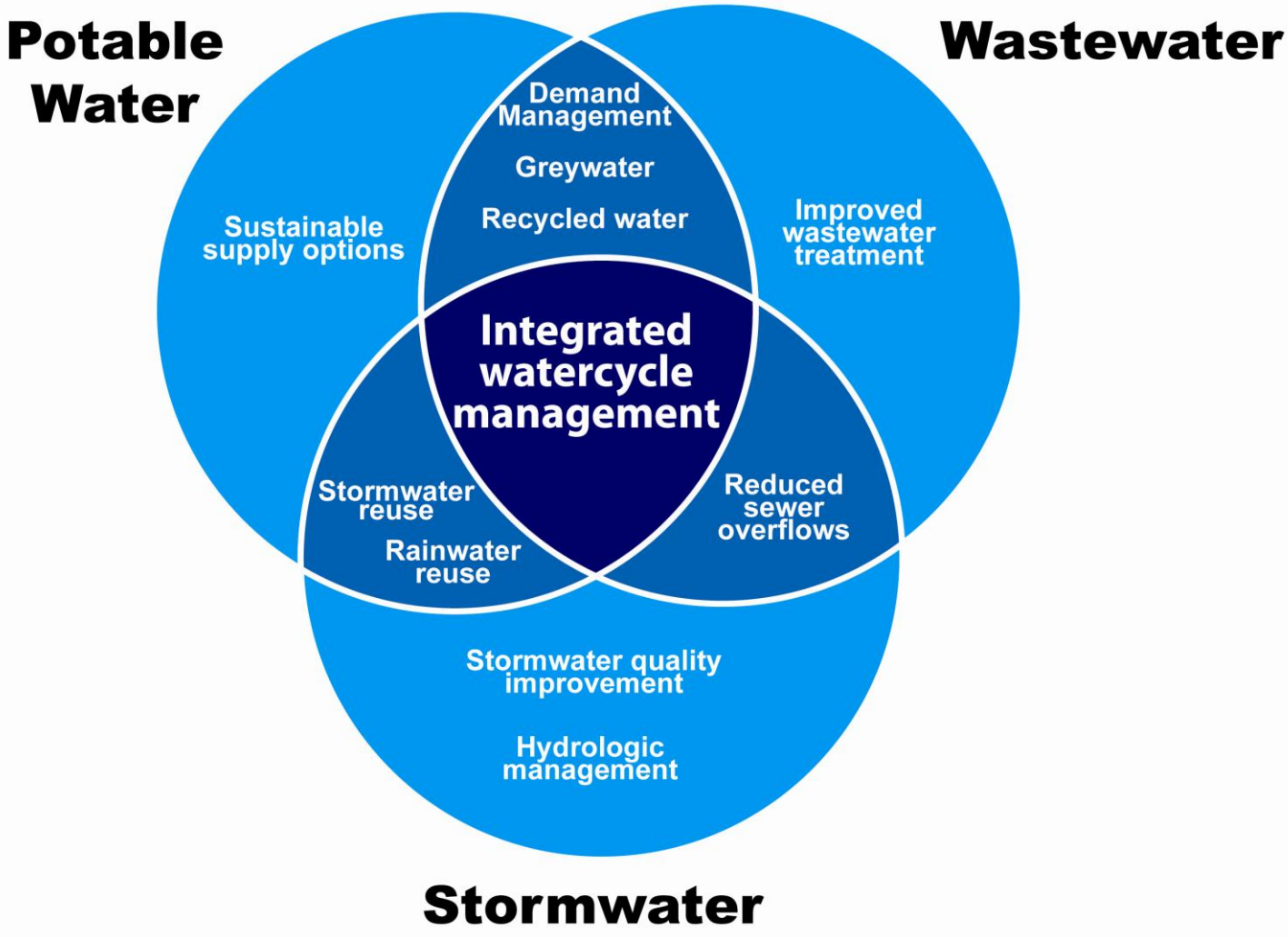


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CRC for Water Sensitive Cities

Integrated Water Management

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Case Studies / Implementation

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- Fitzgibbon
- Brisbane City Council
- Currumbin Ecovillage
- The Southbank Rainbank
- Others

Overview: FiSH and PotaRoo

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Stormwater Harvesting

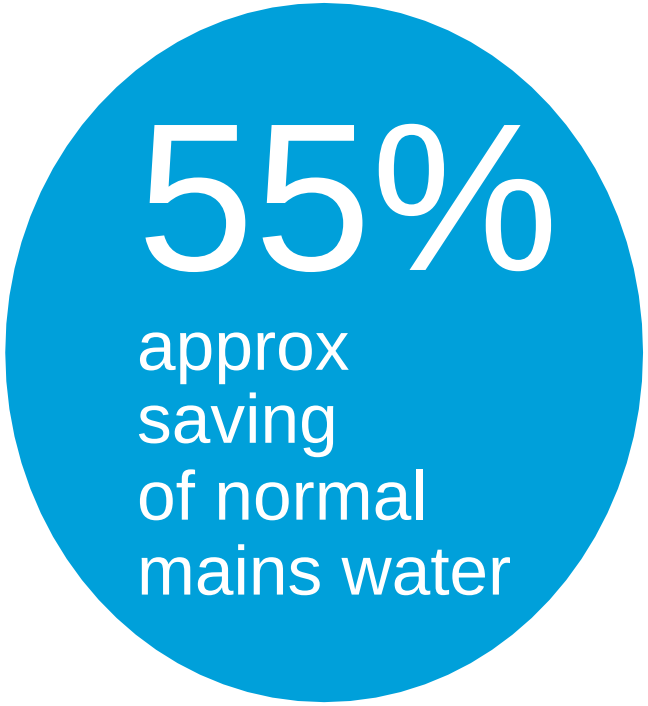
› Supply to non potable uses

› Cost effective and environmentally beneficial

Rainwater Harvesting

› Supply to city potable network (town water)

› World class demonstration project



Fitzgibbon Urban Development Area



Stormwater Harvesting

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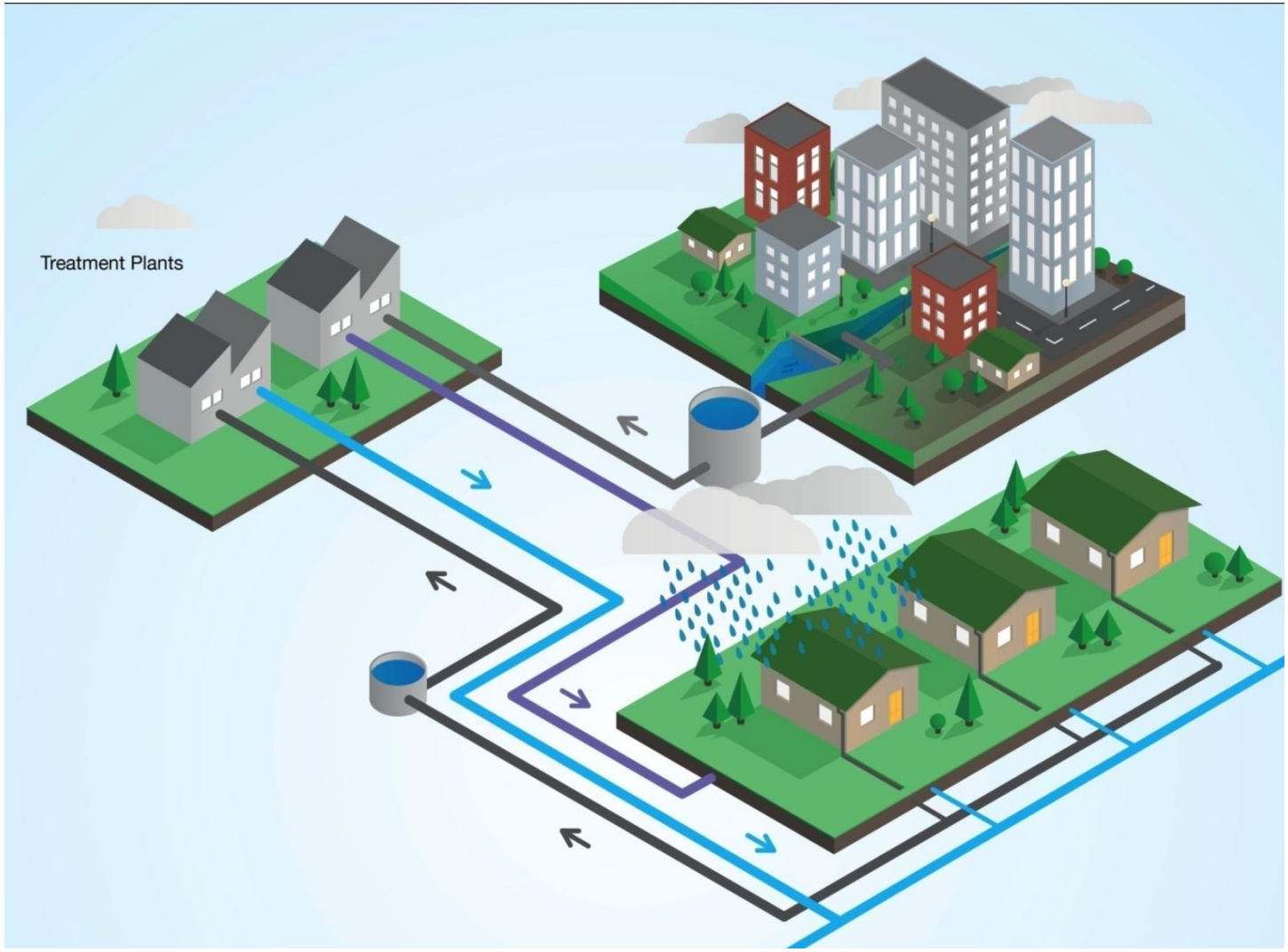
Rainwater Harvesting

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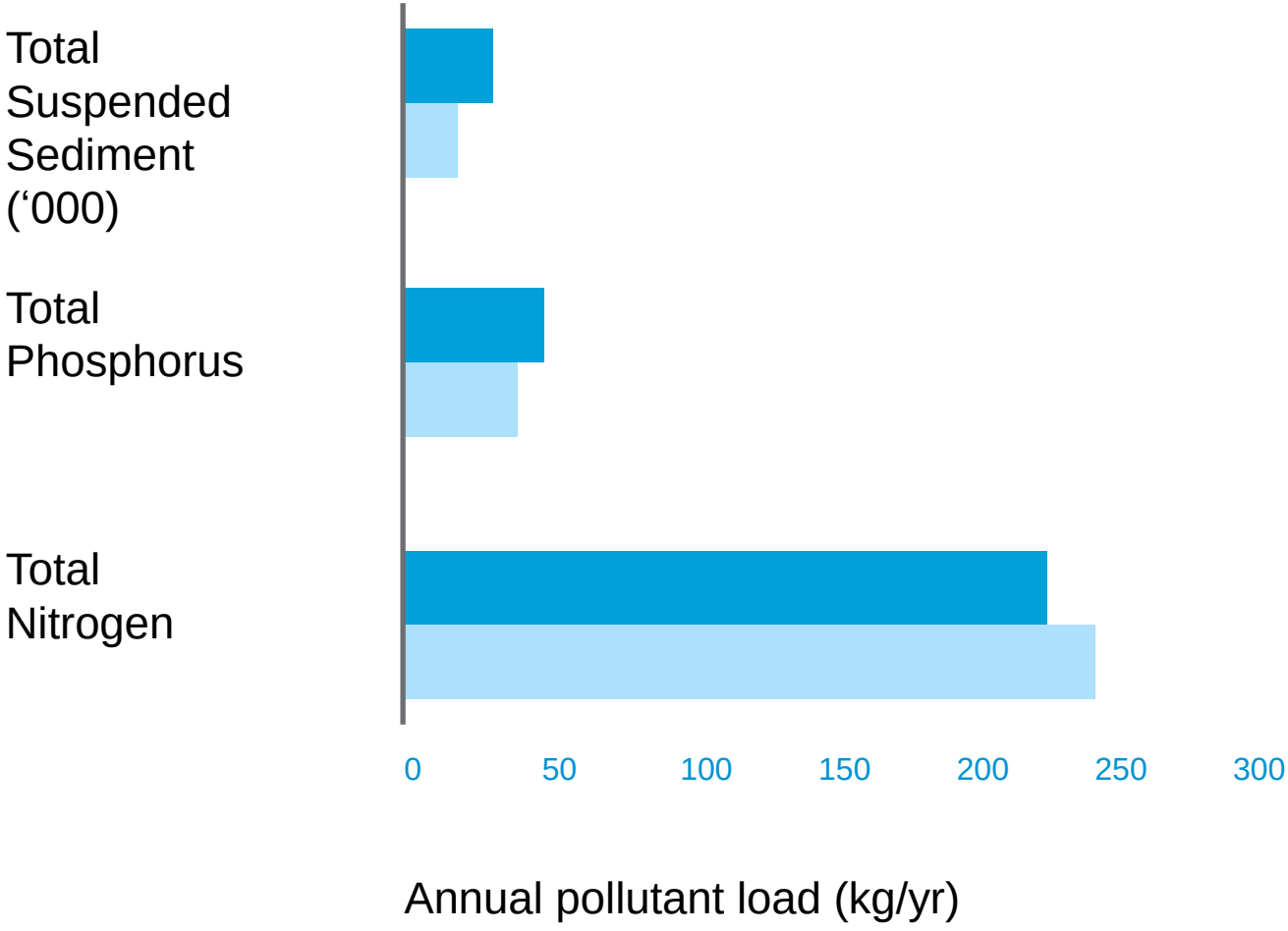
Storm and Rainwater Harvesting

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Stormwater Reuse Pollutant Reduction

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Target reductions in stormwater pollution across all of Fitzgibbon Chase

Amount of stormwater pollution removed by the Stormwater Reuse

What does it look like

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What does it look like

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What does it look like

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What does it look like

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Project Status

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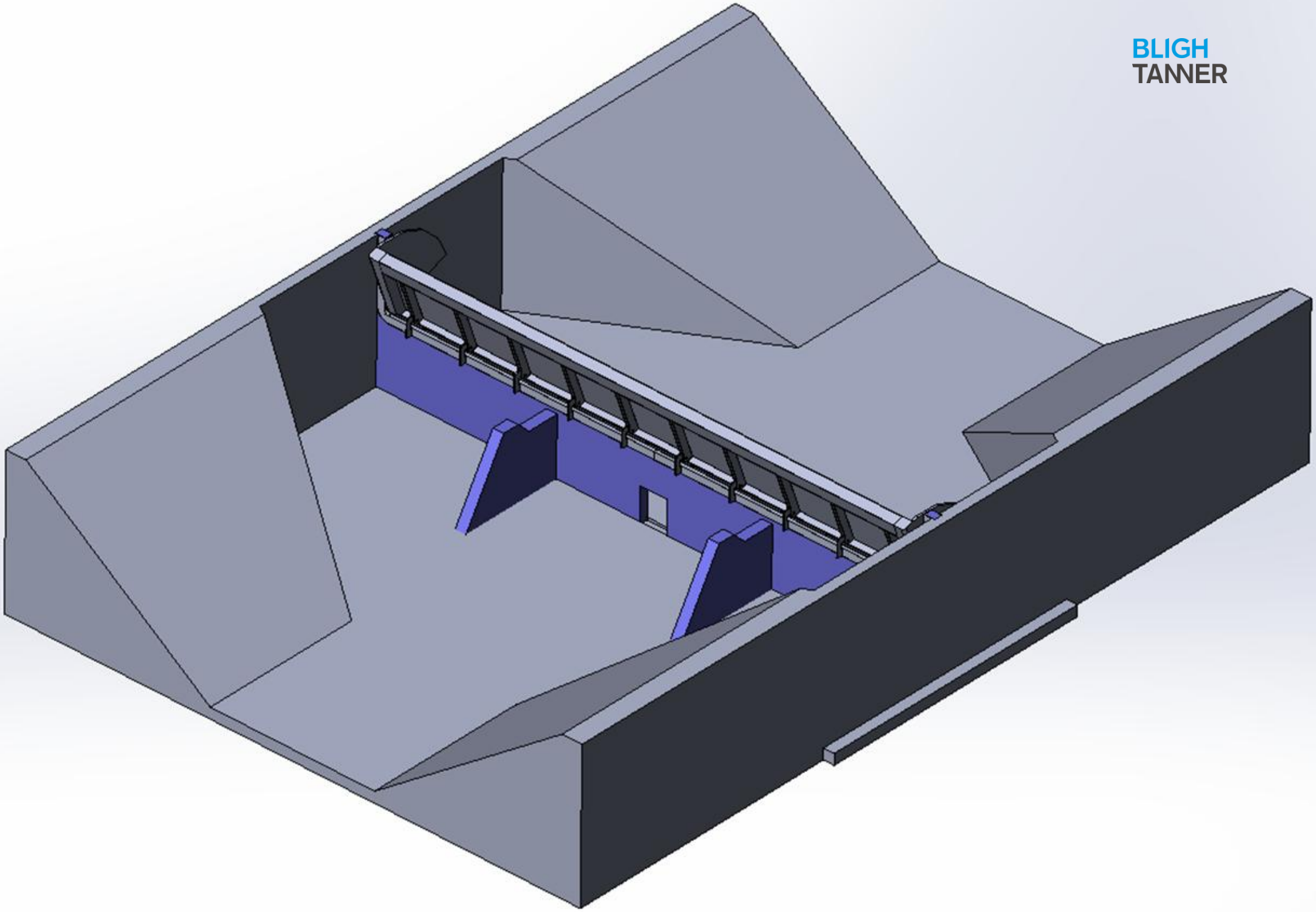
- Both projects are completed ready to operate
- The project business case indicates water costs competitive with town water
- A large part (55%) of the development water supply is from harvested rain and storm water
- There are significant environmental benefits






Brisbane CBD
Brisbane City Council
Stormwater Harvesting
Norman Park North
Norman Park South
Langlands Park
Sexton St.
Norman Creek Area


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The SHARC

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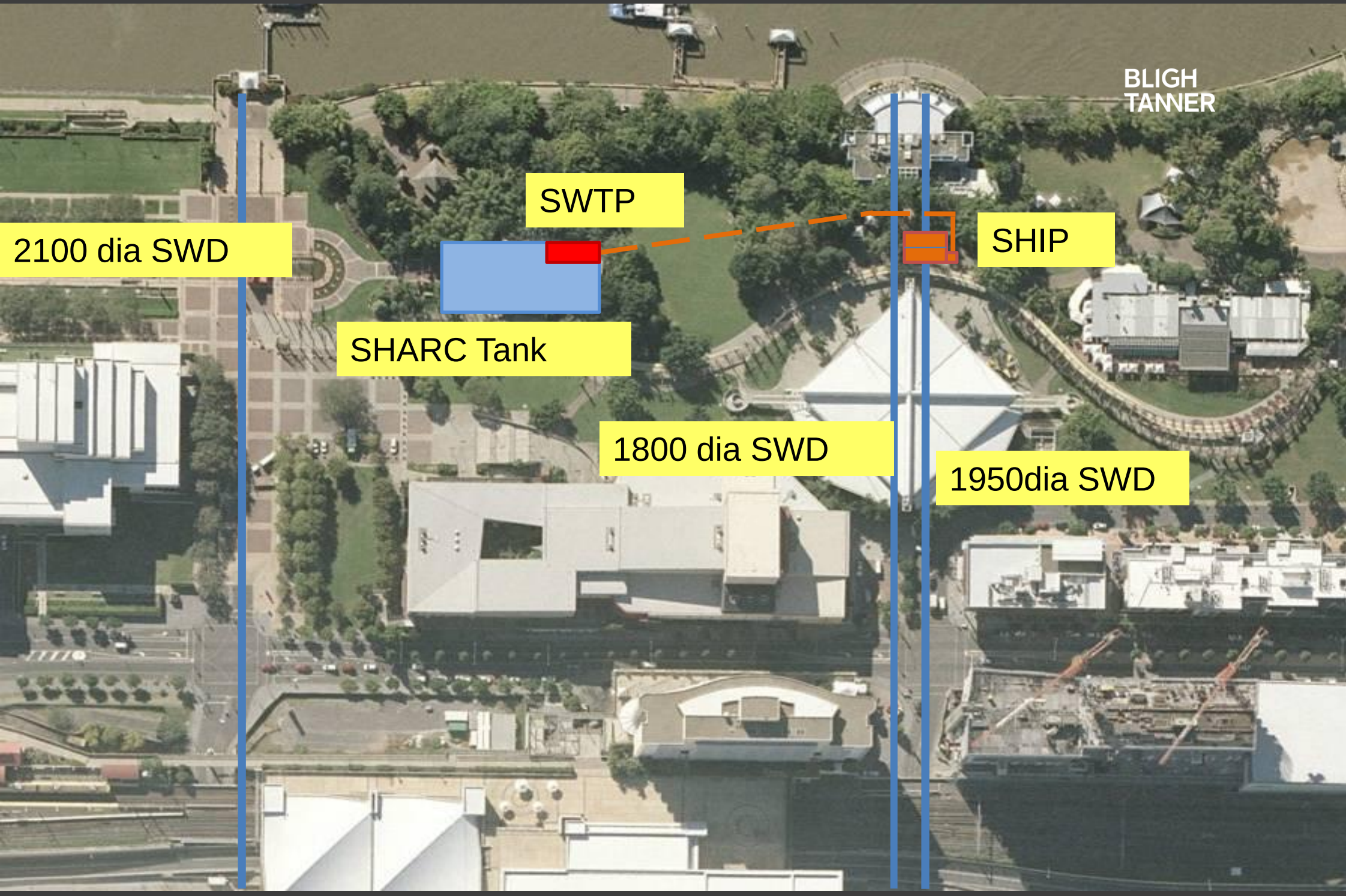
Southbank Stormwater Harvesting and Recycling Centre (SHARC) project

- Substitute for potable water and tankered imported water
- Improve drought security






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30 ha catchment


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SWTP
SHIP
2100 dia SWD
SHARC Tank
1800 dia SWD
1950dia SWD

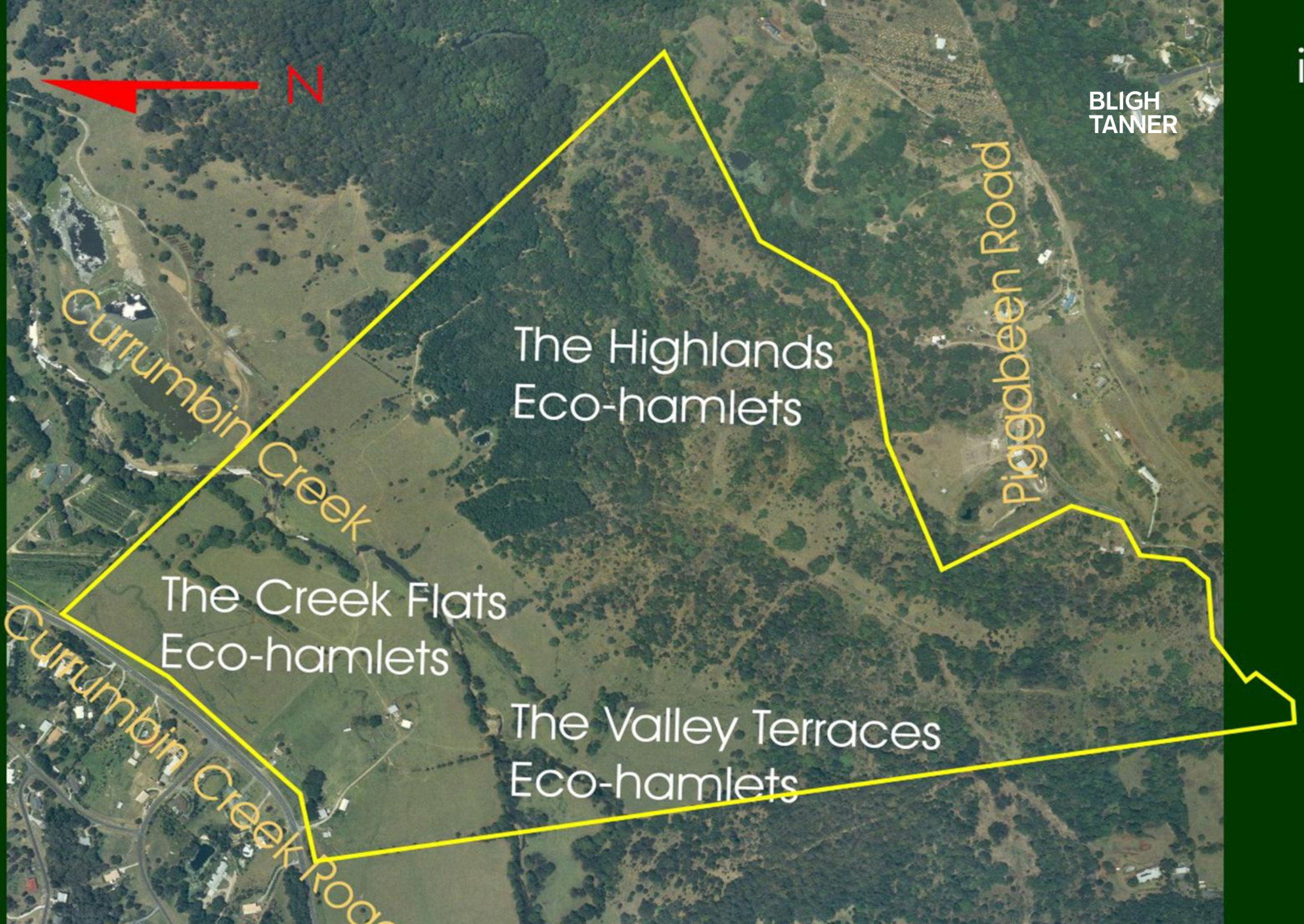

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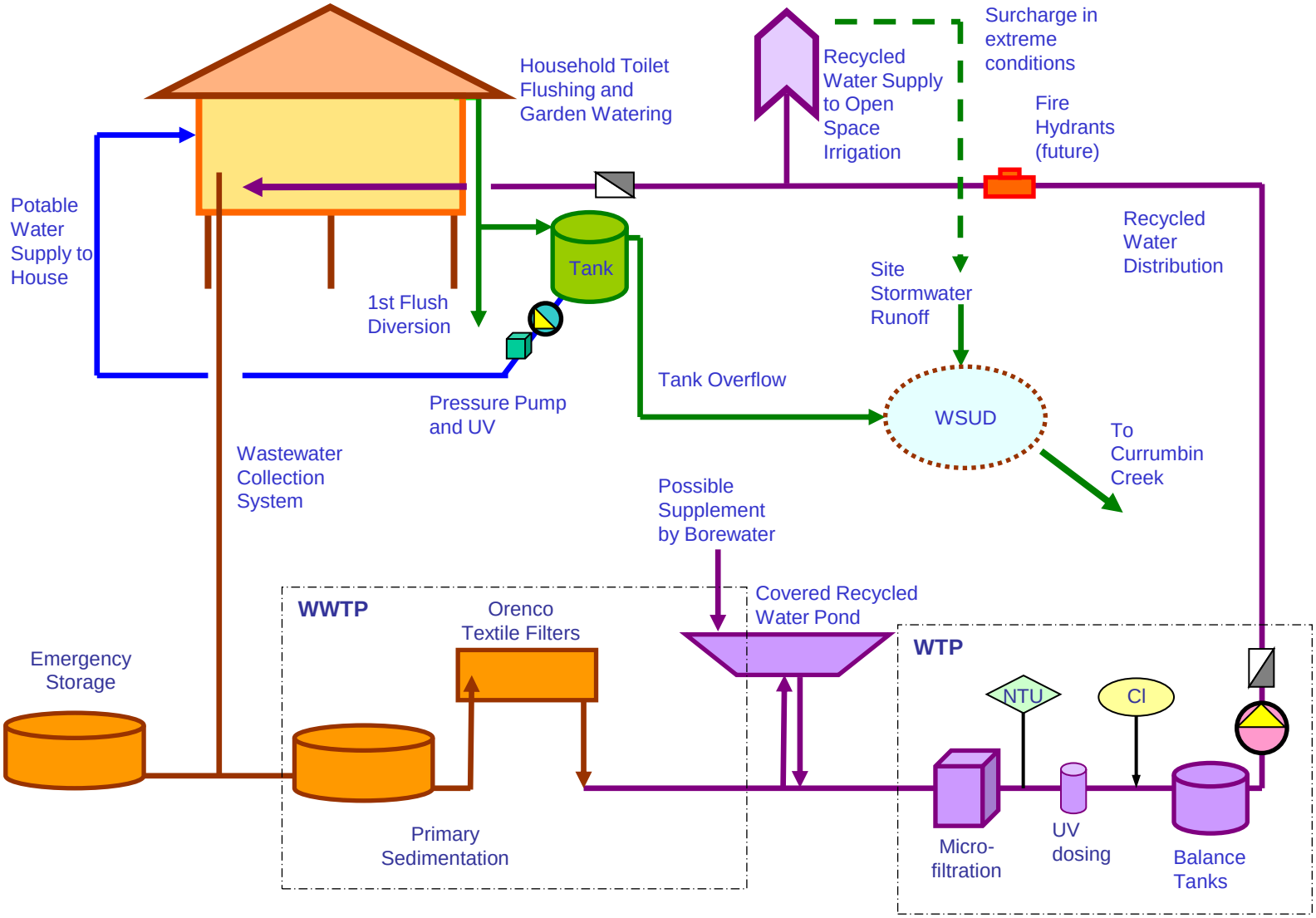

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CASE
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Currumbin Creek
Piggabeen Road
The Highlands
Eco-hamlets
The Creek Flats
Eco-hamlets
The Valley Terraces
Eco-hamlets
Currumbin Creek Road

The Ecovillage at Currumbin Water Schematic

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Indonesia Water Road Map

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Issue: In 2010 47% had access to a safe water supply, and 25% to safe, piped water supply.

MDG: By the end of 2014 to have 55% of urban areas connected to piped water supply.

The new environmental building guidelines will help large educational, health and commercial facilities to meet targets for:

- Energy efficiency
- Water conservation
- Air quality

Conclusions

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Sustainable water management is achievable.

It’s really important to:

› Actively engage with the community

› Understand the policy and political process

› Get the implementation right, gain the community’s confidence

There are multiple techniques with multiple benefits, suited to different situations.

There is a depth of expertise in Australia, we have big water problems, though different to Indonesia’s.

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Services

Integrated Water Management:

- Stormwater
- Wastewater
- Drinking water

Training and advisory assistance

Policy and strategy

Civil and structural engineering

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