Fitzgibbon Chase: Integrated use of non-potable stormwater and potable roof water in a new urban precinct
Fitzgibbon Chase : intégration des usages de l'eau de ruissellement non potable et des eaux de toitures potables dans un nouveau quartier

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ABSTRACT
Fitzgibbon Chase, in Brisbane Australia, is a model for how a city can grow its water supply as it expands, whilst reducing the need for large capital investment and reducing stormwater impacts on waterways. The innovative aspects of the project include:* Collection of roofwater in a central facility which is then treated and used for potable uses.* Supply of treated stormwater to homes for non-potable uses. The Fitzgibbon Chase development is located in the northern suburbs of Brisbane approximately 12 km north of the CBD and has a total area of approximately 114 ha and is a new model of sustainable and affordable housing. At Fitzgibbon the stormwater harvesting to non-potable reuse and roofwater harvesting for potable reuse schemes that will achieve about a 60% saving on normal mains water use. The Fitzgibbon potable roofwater (PotaRoo) project will harvest roofwater from approximately 11 ha of roof catchment (or 1,230 homes) in a new primarily residential development known as Fitzgibbon Chase. Roofwater will be collected in a number of communal tanks located throughout Fitzgibbon Chase and then pumped to a central storage and WTP. The water will undergo a high level of treatment to achieve water of potable quality and be monitored to ensure that it meets the relevant water quality requirements. During the validation phase of the project (3 years) the water will be injected into the non-potable stormwater reuse distribution main supplying Fitzgibbon Chase. Following the validation of the treatment systems, it is intended that the water will be supplied into the town water supply network. It is also intended to provide a small pilot SWTP to treat a side-stream of pre-treated stormwater from the stormwater harvesting scheme to potable standard. This water will be monitored and injected into the non-potable stormwater distribution network. The long-term objective of this pilot SWTP is to investigate the feasibility of treating stormwater for direct potable reuse. In parallel with the development of this scheme, the ULDA is developing the Fitzgibbon Stormwater Harvesting (FiSH) scheme. The FiSH project will divert urban stormwater runoff from the channel running through the UDA, filter and disinfect the water prior to distribution via a 3rd pipe dual reticulation system. The project will supply non-potable water for irrigation, toilet flushing, cold water laundry and outdoor uses throughout Fitzgibbon Chase.

KEYWORDS
Roofwater harvesting, stormwater harvesting
In what aspects does this case study:

Integrate stormwater?

Stormwater is harvested, treated, and then supplied to 1300 homes for non-potable uses. Roofwater is harvested from these homes, and collected into a central location and treated to drinking water standards.

Has a sustainable approach?

It reduces the demand on the potable water supply by 60% whilst reducing stormwater volumes and pollutants reaching the receiving environment.

Has a multi-actor approach?

The Japanese and Australian governments invested in the project, and it involves several government and private sector organisations.

Is innovative?

It is innovative in terms of its approach and scale.

Is exemplary?

The project has been visited by delegations from Japan, China, South Korea, Israel and Malaysia. Locally, the project has won an Australian Water Association Infrastructure Innovation Award (2012) and a Healthy Waterways Water Sensitive Urban Design Award (2012).

Is applicable to other projects?

Model for how a city can grow its water supply as it expands, whilst reducing the need for large capital investment and reducing stormwater impacts on waterways.