

# Doncaster Hill Water Initiatives

## Factsheet



Doncaster Hill is the first Activity Centre in Melbourne to introduce an innovative project to make recycled water available for future residents, while ensuring Council's stormwater management objectives are met.

Manningham City Council worked with Yarra Valley Water and Melbourne Water to develop the project, which will provide residents of new apartments in Doncaster Hill access to Class A recycled water for garden, toilet and laundry use.

A number of innovative options have been developed, allowing customised integrated water solutions that take advantage of recycled water and reduce the impact of stormwater on the environment. The project will be the first time a third pipe system supplying recycled water has been introduced into an established urban setting, and will put Doncaster Hill at the forefront of sustainable water solutions.

### Background

In 2008, Council, Yarra Valley Water and Melbourne Water signed a Memorandum of Understanding to investigate future water servicing options for Doncaster Hill. A study was undertaken to consider a range of different options for managing water supply, sewerage and stormwater, including:

- Business as usual
- Mandated water efficiency
- Rainwater tanks
- Water sensitive urban design
- A range of precinct-based integrated water cycle management solutions (ie. stormwater, wastewater recycling).

The study concluded that a local source of recycled water provided an environmentally responsible additional water source, suitable for a range of uses including toilet, laundry and outdoor use.

### Manningham Planning Approvals

Developers are required to address a range of sustainability and engineering issues prior to receiving planning approval. A Sustainability Management Plan (SMP) needs to be approved for new developments and developers also need to meet best practice objectives for stormwater management.

A number of model solutions have been developed, providing a range of design responses to satisfy water management aspects of the SMP process. The model solutions have the potential to enhance the marketability of a development.

Model solutions include rainwater to hot water service, landscape treatment of sites and green roofs.

These solutions and supporting guidance have been specifically prepared to provide developers with options for customising a solution to suit specific site opportunities and constraints. Designers are encouraged to speak with Council staff to discuss options for reducing on-site detention requirements.

### Benefits of the Doncaster Hill Integrated Water Management approach

By adopting one of the suggested model solutions, developers can expect to satisfy the approval requirements of Council and Yarra Valley Water and provide the following:

#### Shared investment in infrastructure and risk management

- Yarra Valley Water's provision of the recycled water to development reduces the costs, and health and management risks associated with providing building by building water treatment solutions, both in the design and building operation.
- Management of roofwater and stormwater runoff in approved, low risk, 'fit for purpose' applications can reduce drainage compliance costs and increase marketability.
- The use of recommended model solutions can reduce costs associated with development of water management aspects of Council's SMP process.

#### Developers

- Provide certainty around approvals requirements. To clearly understand what is required from an approvals perspective developers can include the third pipe into building design, avoid costly retrofits, and plan appropriate stormwater management strategies.
- Promote water management aspects of buildings as an environmental benefit. Information provided by Council and Yarra Valley Water promotes the clear environmental advantages of using a recycled water supply.
- Compliance options can be customised to suit specific site constraints.

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### Residents

- New residents will have unrestricted access to the water supply. Water delivered through a third pipe will be a guaranteed source of water.
- Recycled water will be charged at the lowest block tariff of drinking water, providing a cost effective water source.
- Doncaster Hill will remain an attractive place to live. Having a constant recycled water supply will ensure that Doncaster Hill retains vegetation to provide shade and amenity for residents.

### Environment

The water study completed for Doncaster Hill identified significant savings including up to:

- 64 per cent reduction in potable water
- 53 per cent reduction in wastewater export
- 42 per cent reduction in stormwater runoff
- 54 per cent reduction in greenhouse gas emissions.

### Suitability of Water

The Doncaster Hill Integrated Water Management approach makes reference to the following different types of water:

#### Rainwater

Rainwater from roofs is a high quality source of water, suitable for most purposes subject to a few simple management actions being implemented. For comprehensive guidance see *Rainwater Use in Urban Communities: Guidelines for Non-drinking Applications in Multi-residential, Commercial and Community Facilities*, published by the State Government, Department of Human Services, 2007.

#### Stormwater

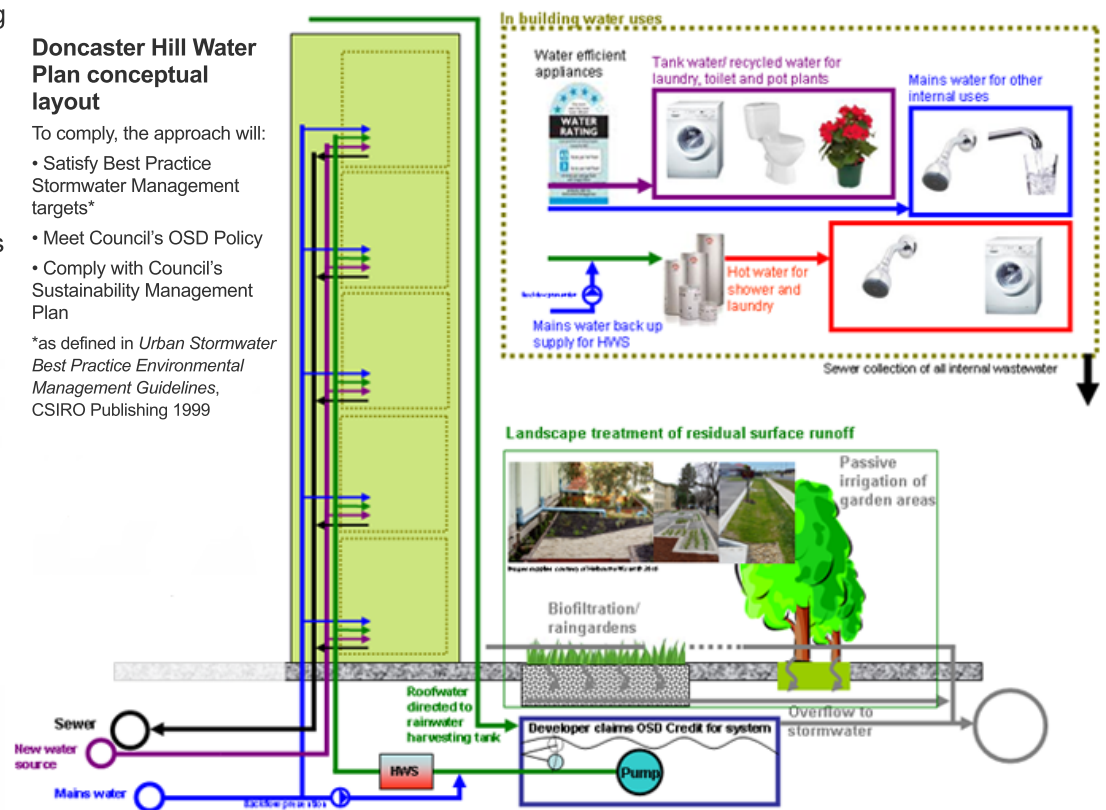
Stormwater (water that results from surface runoff or runoff from elevated areas where significant human activity occurs) is suitable for a number of external, non-potable uses.

### Doncaster Hill Water Plan conceptual layout

To comply, the approach will:

- Satisfy Best Practice Stormwater Management targets\*
- Meet Council's OSD Policy
- Comply with Council's Sustainability Management Plan

\*as defined in *Urban Stormwater Best Practice Environmental Management Guidelines*, CSIRO Publishing 1999



Clever, integrated design responses can be adapted to allow stormwater to passively irrigate landscape areas or encourage infiltration, greatly reducing the need to use potable water in landscape areas.

### Class A Recycled Water

Class A Recycled Water is the highest quality of recycled water; achieved after a treatment process combined with pathogen removal. The use of Class A recycled water is supported by the Department of Health, who have classified Class A recycled water as safe for use as irrigation for food crops and a range of internal uses.

Uses include residential garden watering, toilet flushing, irrigation of municipal parks and sportsgrounds, and food crops that are consumed raw, or sold to consumers uncooked or processed (source: Yarra Valley Water, [www.yvw.com.au](http://www.yvw.com.au))

Yarra Valley Water's investment in future infrastructure for Doncaster Hill and surrounds will ensure a safe and reliable supplementary water source for future residents.