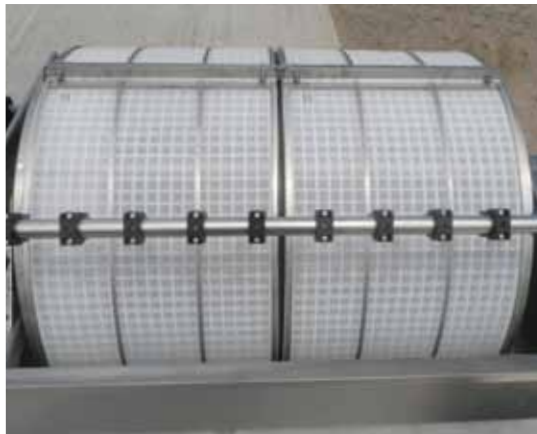


# WILTON RECYCLED WATER TREATMENT PLANT

Wilton, NSW



## Providing recycled water to sustainable communities

Bingara Gorge, one of the newest residential developments in Sydney's South-West (Wilton), received the Housing Industry Association's **first GreenSmart Advanced Estate accreditation** for its many outstanding **sustainability** features:

- > A private **Recycled Water Treatment Plant**, which treats wastewater from the development to produce recycled water for reuse
- > A **stormwater reuse strategy** (100% reuse within the site)
- > 120 hectares of environmental land
- > Urban and home sustainable design
- > Waste minimisation strategy

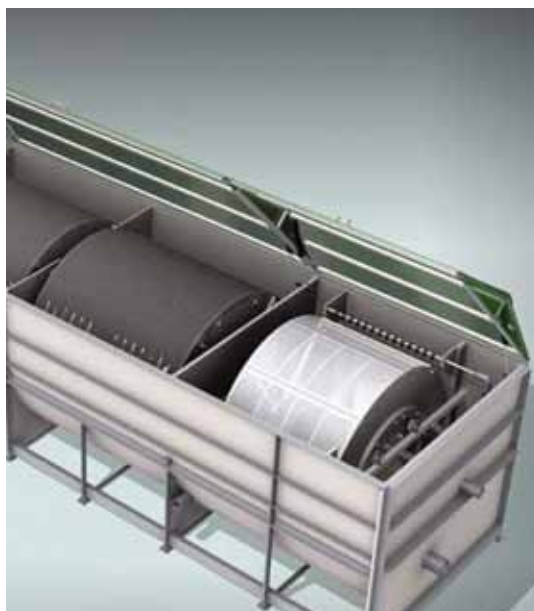
The **Wilton Recycled Water Scheme** includes:

- > A Recycled Water Treatment Plant (50 kL/day, upgradable to 150 kL/day)
- > The recycled water pipelines
- > The sewerage infrastructure
- > A treated water lagoon

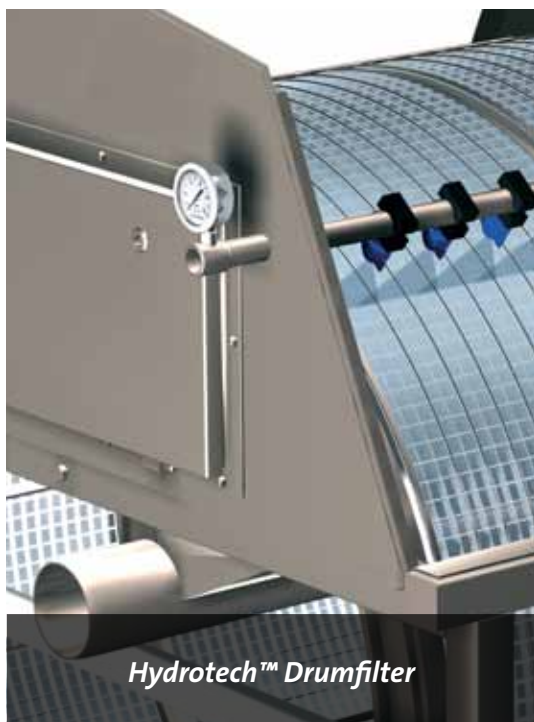
Bingara Gorge is the first community to utilise the services of the Recycled Water Treatment Plant in Wilton.



*Irrigating the new 18-hole championship golf course*



*Ecodisk™ Filter,  
an efficient biological treatment*



*Hydrotech™ Drumfilter*

## Background

Located 60 minutes south-west of Sydney CBD at the gateway of the Southern Highlands, the 450-hectare Bingara Gorge community will include an 18-hole golf course upon completion.

Together with the existing village of Wilton, Bingara Gorge will grow to create population commensurate of a small Country Town.

As this new residential development is located outside of the normal wastewater network serviced by Sydney Water, it was necessary to construct a privately owned and operated Recycled Water Treatment Plant to service the community's needs.

Veolia Water Solutions & Technologies Australia, a leading design & build company of water and wastewater treatment plants, was engaged by Lend Lease to design, construct and operate the Recycled Water Treatment Plant.

## The Water Industry Competition Act 2006 (WICA Licence)

Private companies require a NSW WICA (Water Industry Competition Act 2006) licence to construct, operate and/or maintain water industry infrastructure.

These activities are regulated by the Independent Pricing & Regulatory Tribunal of NSW (IPART) and the Energy & Water Ombudsman NSW (EWON).

Veolia Water Solutions & Technologies was recently granted a Network Operator's Licence and a Retail Supplier's Licence, allowing the company to operate and maintain the \$7.2 million Wilton Recycled Water Scheme.

A separate reticulation system (pipe network) is being built to supply the recycled water to the **golf course, public spaces, retail customers and households.**

## What is recycled water?

Recycled water is wastewater collected from homes, golf course, school and retail & commercial users, which is then treated to a high level to make it safe for use in irrigation & toilet flushing. Recycled water is NOT suitable for drinking purposes.

## How does the Wilton Recycled Water Treatment Plant work?

The Recycled Water Treatment Plant (RWTP) treats the wastewater using a 4-barrier treatment process, to remove viruses, bacteria and protozoa.

The current process includes an Ecodisk™ Filter, followed by Hydrotech™ Discfilter and Ultrafiltration (a proven membrane filtration process), Ultraviolet and finally chlorination.

## What is an Ecodisk™ filter and how does it work?

Ecodisk™ Filter is a biological effluent treatment system, designed for small to medium-sized communities.

Bacteria develop naturally on rotating 'biodisks' to form a 'biological turf', used to treat wastewater through aerobic digestion.

The Ecodisk™ Filter process is followed by a mechanical filtration treatment, the Hydrotech™ Drumfilter.

This sustainable process has a low carbon footprint, with low energy consumption, no noise, visual or odour nuisance. It is a modular system, which can be easily upgraded.

Close to 1,000 Ecodisk™ installations have been built around the world over the past 15 years.

By the time the community is fully occupied, the plant will produce 135,000 litres a day of high quality treated water, the equivalent of 49 million litres a year or 20 Olympic swimming pools.





The purple tabs are for recycled water only.

## What will the recycled water be used for?

### Can use recycled water for:

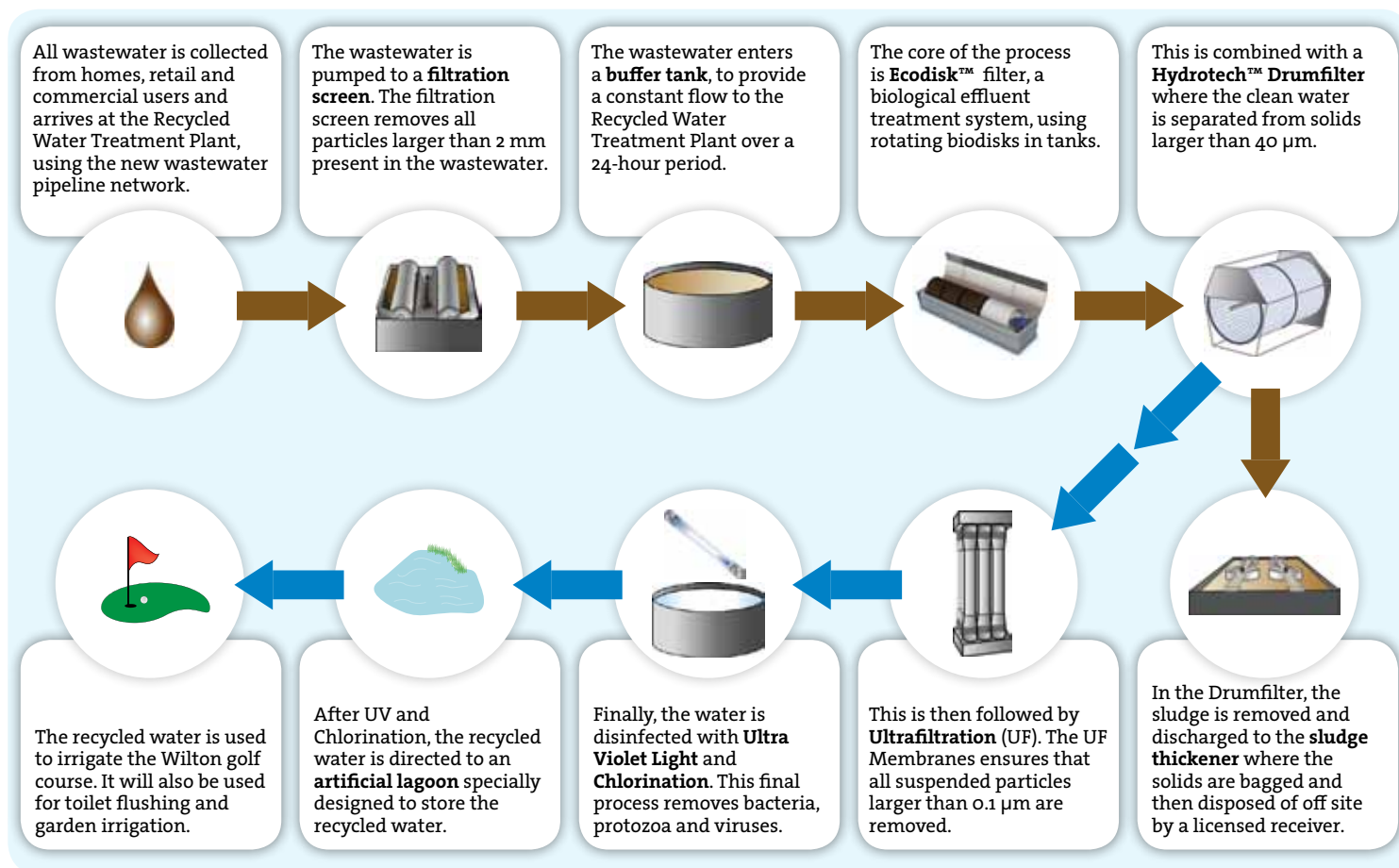
- > Irrigation of the golf course
- > Irrigation of gardens
- > Toilet flushing

**Note:** Other non potable uses for recycled water may be added in the future, depending on operational water quality performance of the new plant.

### Must NOT use recycled water for:

- > Drinking
- > Cooking
- > Personal washing & bathing
- > Indoor house cleaning
- > Filling swimming pools
- > Recreation activities
- > Evaporative coolers
- > Washing pets
- > Animal drinking water
- > Washing hard surfaces, including cars

## Turning wastewater into recycled water



Usage is priced at approximately 10% less than the cost of the normal town water. The recycled water treatment scheme represents a significant investment into a sustainable future.

## Prohibited Substance Rules:

### Which substances should NOT be put down the sink, toilets or drain?

- |  |   |  |
|--|---|--|
| <b>A</b> Ammonia, Anti-Freeze Chemicals  | <b>F</b> Fats (including Meat Fats), Food Scraps, Flammable Substances, Feminine Hygiene Products | <b>P</b> Phosphates, Paints, Polish Remover, Paper Towels, Pharmaceutical Products |
| <b>B</b> Butter, Baking Goods, Bleach  | <b>G</b> Grease, General Garbage  | <b>R</b> Rags  |
| <b>C</b> Corrosive Substances (Acidic or Caustic), Coffee Grinds, Condoms, Cat Litter (including Flushable Cat Litter), Chlorine | <b>L</b> Lard   | <b>S</b> Sauces, Salts, Stickers (including Produce Stickers), Solvents            |
| <b>D</b> Dairy Products  | <b>M</b> Margarine, Medications, Motor Oils, Medicines  | <b>T</b> Turpentine, Transmission Fluids, Toxic Chemicals                          |
| <b>E</b> Egg Shells, Explosive Substances  | <b>N</b> Nail Polish  |  |
|  | <b>O</b> Oils (including Cooking Oil)   |  |

**Note:** These are part of the Prohibited Substance Rules which are available on the [www.myrecycledwater.com.au](http://www.myrecycledwater.com.au) website and may be updated whenever required. All these substances should be disposed of using the appropriate waste system (e.g. compost system or waste bins).

Parameters	Wilton Recycled Water Quality	NSW Code of Practice - Management of private recycled water schemes*	Australian Guidelines for Water Recycling (golf course irrigation)**
BOD <sub>5</sub>	<10 mg/L	<10 mg/L	
Suspended solids	<10 mg/L	<10 mg/L	
pH	6.5-8.5	6.5-8.5	
Turbidity	<2 (95%ile), <5 NTU	<2 (95%ile), <5 NTU	
E. Coli	<1/100mL	<1/100mL	<1/100mL
Disinfection		0.2-2.0 mg/L residual	
Coliphages		<1 pfu/100mL	
Clostridia		1 cfu/100mL	
Validated Virus reduction	5 log reduction		5 log reduction
Validated Bacteria reduction	4 log reduction		4 log reduction
Validated Protozoa reduction	3.5 log reduction		3.5 log reduction

\* NSW Guidelines for Management of private recycled water schemes (May 2008)

\*\* Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006

## Location of the RWTP

1. Recycled Water Treatment Plant on elevated land next to Highway
2. Rain and treated water lagoon
3. 110 KL sewage storage tank next to creek



**For more information**  
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