

Wastewater Treatment

All sewage is collected through a series of pipes then carried by gravity and pumps to Wastewater treatment plant.

THE WASTEWATER COLLECTION SYSTEM

The wastewater is collected from individual homes and businesses through small diameter pipes called sanitary drains 'house drains', and main sewers.

The wastewater flow from an area or suburb is carried by gravity to pump stations prior to delivery to the wastewater treatment plants.

THE TREATMENT PROCESS

Bundaberg Regional Council currently operates 10 Wastewater Treatment Plants around the regional.

Ex Bundaberg City Council

- East Bundaberg (the largest)
- Millbank
- North Bundaberg
- Thabeban
- Avoca

Ex Burnett Shire

- Coral Cove - Golf Course
- Bargara - Neilson Park

Ex Kolan Shire

- Gin Gin - Old Slaughters Yards

Ex Isis Shire

- Childers - Morgans Rd
- Woodgate

The operation and activities at the Wastewater Treatment Plants consist of physical, biological and chemical treatment of wastewater. The plants are designed to remove inorganic and organic matter from the influent wastewater to produce effluent that meets the requirements of the Environment Protection Agency (EPA).

Bundaberg Regional Council
PO Box 3130
BUNDABERG QLD 4670
1300 883 699
www.bundabergrc.qld.gov.au

Council hours
8.15am to 4.45pm
Monday to Friday

Fact Sheets available:

1. Water Cycle
2. Water Treatment
3. What I need to know about Wastewater
4. Wastewater Treatment
5. Water Pollution
6. Water Recycling
7. Water Efficiency
8. How to read your Water Meter
9. Water Meter Home Accuracy Check
10. Drip Water your Garden and save
11. Important things to know about drip watering
12. Water Audit for the Household
13. Rainwater Tanks
14. Pool Maintenance

Booklets available:

1. You Can Take Control
2. Create Your Own Water Wise Garden

Additional fact sheets from WaterWise Queensland can also be obtained through you Local Council.

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The Wastewater treatment process is made up of process streams of which have the following distinct stages. They are defined as preliminary treatment – (screening and sedimentation), aeration/digestion – (biological degradation of volatile organics), disinfection – (chlorination of final effluent) and dewatering – (biosolids concentration to remove water).

The preliminary treatment stage of screening and sedimentation removes coarse inorganic solids from the wastewater. This material is removed upfront from the wastewater as the debris may damage pumps or deposit in process units taking up volume as well as mostly being nonbiodegradable.

The sedimentation process occurs after screening and serves to remove settleable solids prior to treating the wastewater biologically to remove dissolved organics.

Aeration and anaerobic digestion are two distinctly different biological process streams of which the former utilises aerobic micro-organisms while the latter is a process without oxygen present. The micro-organisms from both respective treatment streams metabolise the organic material into simple, stable compound forms such as Carbon Dioxide, Nitrogenous Oxides, Phosphates and Methane.

The final treatment stage, chlorination, is where chlorine is dosed to the effluent to destroy disease causing micro-organisms.

All of the biological treatment processes produce a great quantity of biosolids that undergo dewatering. The dewatering process is accomplished a number of ways. This is accomplished in 'drying beds' through the simple process of evaporation or biosolids are passed through a belt press, which produces a dry cake of approximately 15% water content. The dewatering reduces the quantity of biosolids that has to be hauled for final disposal.

Council has recently adopted initiatives to investigate options for the beneficial reuse of both effluent and biosolids. Reuse schemes have been established for effluent reuse while biosolids is applied in agriculture for soil conditioning.

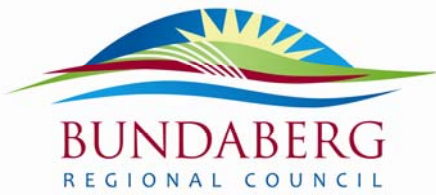
The treatment process can be affected by a number of illegal discharges into the system such as toxic trade wastes and nonbiodegradable household items. Stormwater infiltration can also cause problems such as flooding which can impact on the wastewater treatment process.

Council has an ongoing program of infiltration remediation to reduce stormwater entering the system.

ENVIRONMENTAL PROTECTION ACT

As the majority of treated wastewater is currently discharged to the Burnett River, Council has an obligation to minimise environmental harm to the receiving waters.

The Environmental Protection (Water) Policy 1997 provides the framework under which Council must manage its environmental



obligations. Council has developed and implemented an Integrated Environmental Management System (IEMS).

The IEMS provides Council with a systematic approach to managing its environmental responsibilities.

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If you have any queries about any of the information presented in this fact sheet, please telephone Bundaberg Regional Council Water & Wastewater Infrastructure Planning Technical Support on 1300 883 699