

# THE OUTBACK REGIONAL WATER GROUP

## LONGREACH REGIONAL COUNCIL



### Water Infrastructure:

Connections: 2,063  
Length of Mains: 99 km  
Pump Stations: 12



### Sewerage Infrastructure:

Connections: 1,831  
Length of Mains: 57 km  
Pump Stations: 7

Longreach is the largest town in Central West Queensland and located right on the Tropic of Capricorn. It is also the first home of Australia's major carrier, Qantas, with the airline building Australia's first six aircraft at the operational base in a hangar at the current Longreach airport. The heritage-listed hangar now houses the Qantas Founders Museum. The nearby Australian Stockman's Hall of Fame and Outback Heritage Centre provides visitors with a spectacular outback experience.

Longreach is classified as a medium sized water service provider and includes the former shires of Ilfracombe and Isisford and the small township of Yaraka.

## BOOSTING SUPPLIES

Towns relying on surface waters are more prone to supply issues than those serviced by the GAB and there is an increased requirement for larger storages to deal with the high evaporation losses which are exacerbated during prolonged drought. However, sustainable supplies have been confirmed for each of the smaller communities and Longreach itself.

Since the early 1900s, Longreach operated two separate water supply schemes with untreated artesian bore water (non potable) and fully treated river water (potable). Both were used domestically up until 1990 when complete treatment of the river water supply and a major upgrade of the pipe network started.

Many pipes had in the past been used to convey partially treated water. With only a basic treatment under the belt, this water contained high levels of silt causing sludge build up in the already ageing system. Furthermore, with pipes increasingly prone to leaking, Council estimated a total of 35% or 700ML water loss in 2007.

To solve these problems, a new water treatment plant was commissioned in 2007 to treat the turbid river water. Council also invested heavily in a ten year plan to replace and update the water mains. The project has replaced reticulation networks that were in some areas between 50 and 75 years old, with reports of rare wooden pipes found during the upgrade.

Transitioning to a single distribution network with highly treated water has saved ratepayers significant future costs. Properly functioning reticulation systems are also crucial for fire fighting capacity, which has been improved since the upgrade.

Similar improvements have been underway at Ilfracombe and Isisford where reviews showed pipes to be in a good condition, but booster pumps have been installed to provide fire fighting capacity. The treatment plants in these towns are fit for purpose but have recently been optimised to provide water that is safer and more efficient to produce.

Council's due diligence with reviewing the viability of their water supplies provided a clear direction for sustainable water management, with the Longreach upgrades winning them the 2011 Institute of Public Works Engineers Excellence Award for Sustainable Water Management.



## FIXING THE LEAKS

The Longreach sewerage scheme has been operational since 1956 and includes four sewage pump stations and approximately 42 km of reticulation and rising mains.

The hard country out west takes its toll on pipes. The original sewers were constructed in cement jointed glazed earthenware up to 400 mm diameter and larger pipes typically being reinforced concrete. From the late 1960s to the mid 1980s the trend was for AC pipes, but since then Council has exclusively used PVC pipes for mains extensions and replacements for diameters less than 400 mm.

The ageing, brittle pipes were causing approximately 36 main breaks per 10 km of pipework per annum, which greatly contributed to stormwater infiltration into the system. A significant upgrade project is addressing these issues and will reduce long term costs and improve services.

Raw sewage is pumped approximately 3.5 km to the Sewage Treatment Plant consisting of two Imhoff tanks, four aerobic lagoons, five drying beds and an effluent wetlands area.

Imhoff tanks have proven to stand the test of time with the Longreach tanks, dating back to 1958

and 1984 respectively, equally sharing the load.

Treated effluent discharges into a nearby creek that flows into the Thomson River via a developed wetland area. This comprises a series of channels and gullies which allows most of the effluent to evaporate before reaching the river.

While this tried and trusted older technology will serve the community well for some time to come, the Council recently invested in important new technology to monitor system operations.

In the past Council always relied on regular site visits, but the upgrade to a SCADA system means Operators can now monitor and control Council's water supply schemes from the office.

Telemetry and flowmeter installations also allow Longreach Regional Council to collect more accurate flow data which is crucial for planning purposes.

The sewerage collections systems in Ilfracombe and Isisford are more simple in line with their smaller populations and are relatively new. A consistent maintenance program is ensuring these assets will have a long lifetime.