

Smithfield Village

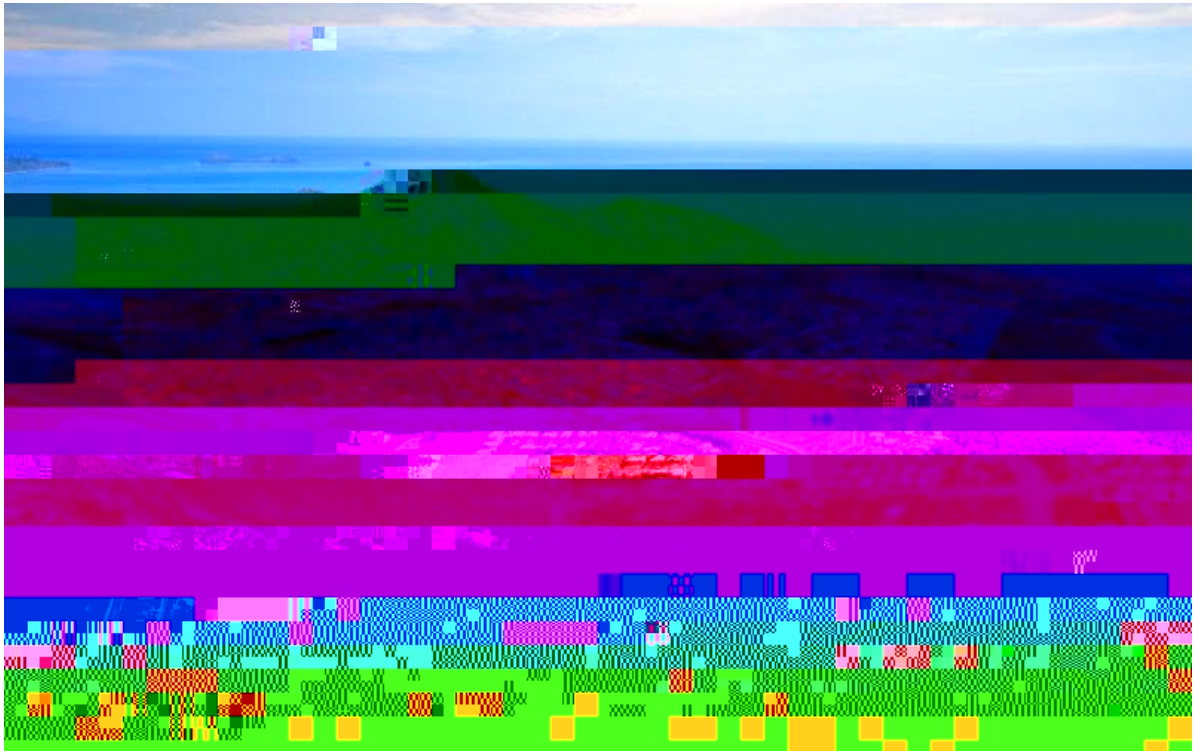
Project type: Civil

Location: Smithfield, Cairns, QLD, Australia

Year Completed: 2007

- Master planned coastal community that adjoins a flood plain.
- Bio retention basins, stormwater treatment trains, reticulated grey water system and a vacuum sewerage system
- A number of 'firsts' for regional tropical Australia by a team of experts in their fields.

OVERVIEW



Smithfield Village is a sustainable masterplanned community within the existing community of Smithfield, Cairns. The project is one of Cairns's largest masterplanned communities to date. It incorporates 1300 residential lots released over 38 stages with mixed land use, open space recreation and environmental parks. The main sustainability feature of the Village is the Water Sensitive Urban Design (WSUD).

The key feature of the project is the use of bio retention basins and stormwater treatment trains to treat stormwater before it enters the Great Barrier Reef Marine Park. They are the first of their kind to be installed in the wet tropics of Australia. With an annual rainfall of over 2,000mm and the volumes and intensity of the storm events in the tropics, the bio retention basins is helping provide a benchmark for future stormwater management practices in Cairns. The Gross Pollutant Trap (GPT) capturing off site water entering into the Village was the largest installed in Cairns at the time, constructed in Brisbane and transported to Cairns. The development includes a reticulated grey water system to save an estimated 130M litres of water per annum and a Vacuum Sewerage system

to avoid additional infrastructure, running costs and deep excavation. The sewer has been laid in the road reserve after much negotiation with council and this resulted in 25% fewer manholes. All houses have optic fibre connected to enable fast internet. It is the first Telstra Smart community in Cairns.

The project gives residents the opportunity to be less car dependant and the design connects people to open space with an extensive



MATERIALS

Purple Pipe (third pipe):

As around 1200 homes will ultimately be connected to the system, it is possibly the largest regional implementation of such a scheme in Australia. Ultimately the purple pipe system will save around 130 million litres of water per annum.

Fibre Optics:

As another first for the Cairns community, all residents have optic fibre connected to their home, providing high speed internet. Free to air digital TV is also broadcast over optic fibre, resulting in no need for TV antennas.

Gross Pollutant Trap (GPT):

A Rocla CleansAll CL1200 Gross Pollutant Trap was used, at nearly 6 m long and almost 5 m deep. Constructed in Brisbane and transported to Cairns, it was the largest installed in Cairns at the time.

Infrastructure savings from less sewerage pipes:

25% less manholes are needed by

Project of the Year 2007 Cairns for its work in this regard.

Taking advantage of Cairns Regional Council's \$190 million Cleaner Seas programme, reticulated recycled water pipes have been installed, which will ultimately save an estimated 130 million litres **an**