Mareeba Shire Council

Capping of the Old Mareeba Landfill was completed 22-12-2017, this was a $6 million-dollar project undertaken by Mareeba Shire, designed by Golder Associates involved major civil works, capping, leachate pumping network and passive gas flaring.

Mareeba Landfill Surface Waters Project – The Mareeba Landfill is authorised to be operated by Mareeba Shire Council (MSC) under Environmental Authority. That Authority requires surface waters to be discharged in accordance with stringent conditions for the protection of water quality. The Mareeba Landfill presents difficult environmental circumstances to control erosion and minimise the release of sediment laden waters. Mareeba Shire Council submitted a Program Notice in February 2017 and subsequently a Voluntary Transitional Environmental Program was approved by EHP 29 June 2017 to meet Environmental Authority conditions relating to surface waters; in particular the limits for water quality characteristics and the implementation of a Surface Waters Monitoring Program. The project has progressed well and works have met and met the major implementation milestone of 100% practical completion by 19 January 2018 Works completed to date are in good condition and crop plants have started to germinate.

Reconfiguration of the Kuranda Waste Transfer Station completed December 2017, project consisted of civil works raising the and extending the existing platform to allow for extra bins and improved user access.
Remediation and closure of the Almaden Landfill and construction of transfer station completed early December 2017, existing waste site was at end of useful life and was closed of the site remediated and a new transfer station constructed on an alternate site.

Tully Landfill Project

The project involved the construction of a clay cap on a redundant section of the Tully Landfill, often referred to as the wettest landfill in Australia located in an area of the Cassowary Coast Region known for its extremely high rainfall.

The objective of the project was to alleviate the risk of toxic material being released into the environment during high rainfall events and to deliver infrastructure essential to the health and well-being of local communities and the surrounding Wet Tropics and Great Barrier Reef environments.

The key elements of the project included the reshaping of approximately 2.6 hectares of landfill structure; the construction of leachate collection systems including leachate trenches and sumps;
the construction of a clay layer consisting of 300 mm of impervious clay; the construction of stormwater drainage infrastructure including gabion style rock baskets and drop structures to reduce velocity and energy of water flows; and the construction of drainage lines to direct water to existing sedimentation basins.

The project suffered delays due to the belated announcement that the project was to benefit from a ‘Building our Regions’ grant that funded 50% of the total $1,268,267 budget. Despite this, all the works were completed on 22 December 2017. The site held up well despite heavy rainfall and the hydro mulch featuring a seed mix that protects the bank from erosion, adhered well. Some additional work was undertaken after the project was completed relating to sediment and erosion control.

“Since the project was completed the water quality downstream of the landfill has improved.

We have also seen a significant difference both in the increased runoff and greater capture of leachate. By reducing the leachate production will also reduce risk that council will have to haul leachate to a disposal site. This is a costly exercise so any potential reduction leads to significant savings,” said Robert Nutt, Coordinator Environmental Services at Cassowary Coast Regional Council.

The other huge benefit is the increased useable landfill capacity.

“As part of the capping project fresh water that was flowing between the two landfill cells has now been redirected around the site. This allows for the two cells to be tied together. And significantly increases the available airspace at the site increasing the overall life of the site by several years,” he added.

The project was a collaboration between the Cassowary Coast Regional Council, Queensland Government, Celtic Construction Utility Services and Golders and Associates.

Refrigerant Gas Recovery

Last year Townsville Waste Services recovered 1,102 kg of refrigerant gasses with 3,215 fridges and freezers and 2,632 air conditioners degassed.

This refrigerant gas recovery reduces the level of emissions to the environment of ozone depleting and synthetic greenhouse gas refrigerants.
Stuart Transfer Station Opens

Stuart landfill is the largest of Townsville City Councils three landfills which receives and processes over 150,000 tonnes of waste per annum. The site opened in 1988 and in 2003 the first stage of the transfer station upgrades were completed comprising of extended road network, gatehouse and a roundabout. After a lengthy delay, stage 2 of the project was awarded and finally completed in 2017 which comprised of a six bin, twelve bay saw tooth transfer station.
This new infrastructure was designed by AECOM and the construction contract awarded to Mendi Constructions at a cost of $2.5M who placed an emphasis on utilising local subcontractors. A tip well unit has been installed in one bay that allows for residents to place waste directly on ground (rather than over transfer safety barriers). Recycled glass from the Townsville MRF has been used for the construction of the road pavement replacing sand that is normally used as aggregate for the asphalt layer with 8% (40 tonnes) recycled glass. This has been a great showcase of the ability to utilise recycled glass locally and council is hoping to see more of it in the future.

After 14 years of planning, the roundabout now serves a purpose and the roadways to the new transfer station sparkles (literally)!
Old tyres used to make footpaths that help water trees

New research from the University of Melbourne and Tasmanian company Merlin Site Services has found a way of recycling old tyres and using them to create urban paving that can provide water to nearby trees.

It follows a recent trial of the system at the University of Melbourne Campus which involved four different pavement recipes for different uses (footpaths, bike paths, car parks and low-volume traffic roads).

The materials allow rainwater to soak down between the pavements, which will then be able to provide water for nearby trees.

The Tyre Stewardship Association funded research project is now investigating how viable using waste tyre products for footpaths is, and if it can even help irrigation and storm water management in urban areas.

Research will involve both laboratory and field testing through a pilot installation program to encourage the construction industry and local governments to use tyre-derived products.

Currently, 51 million used tyres are discarded each year, but only five per cent are recycled locally.

According to TSA Market Development, Manager Liam O’Keefe, the aim of TSA investment in this research is to support the use of a very high percentage of TDP (up to 60 per cent) in permeable pavement products, providing another opportunity for sustainable management of end-of-life tyres to deliver new products and new jobs.

Kerbside Recycling

Whitsunday Regional Council has finally begun kerbside recycling collections. Councillors voted unanimously to approve a Kerbside Recycling Implementation Plan back in September 2017, in an historic decision which would see kerbside recycling introduced to all areas in the Whitsunday Region which receive a weekly wheelie bin collection, from mid-November. This brought to an end the frustration felt by residents and visitors to the region at the lack of this service. Whitsunday region was one of a very small number of Queensland Councils which did not offer the service.

The implementation began in October 2017, with the first households receiving their fortnightly collection in mid-November to coincide with National Recycling Week.

Each single-occupancy property has received a new 240 litre wheelie bin with a yellow lid. Full instructions and useful information on what to recycle were provided in an Information Pack as
part of a concerted education program aimed at maximising the waste diverted from landfill and minimising contamination. This program also includes new website information, a new “Recycle Coach” App, TV adverts, market stalls, and a schools’ education program.
Collections will take place on the same day as current bin collections. Unit complexes, particularly in Airlie Beach, will take longer to be fully implemented as many of these already have constraints with space. Council’s Waste Management team is working with Council’s contractors to find the optimum solution to each of these, in an exercise which may take several months to complete.

Clauses in Council’s existing contracts with its waste collection contractors (JJ Richards and Cleanaway) enabled the new service to be introduced at any point up to June 2019.

Whitsunday Mayor Andrew Willcox said “Kerbside Recycling is a key component of Council’s Waste Management Strategy, which we agreed in February 2017. Our community has been telling us consistently for many years that this is a service that they would like to see. Likewise, visitors to our region from interstate and overseas find it hard to understand why we haven’t been able to recycle our waste like this, particularly with the Great Barrier Reef on our doorstep. Well, this is a service whose time has finally come. We anticipate that we will be able to divert up to 5,000 tonnes of household waste from our landfills each year once the service gets up to speed. It costs Council more than $1M to build a new landfill cell, and each cell becomes filled up with waste after only about 3 years. We are always looking to find ways to conserve our landfill space and kerbside recycling will play a big part in this.”

Residents will be able to recycle paper, cardboard, steel and aluminium cans and many types of plastic. Recyclable waste from Airlie Beach and Proserpine areas is being taken to the recently upgraded sorting facility in Mackay. Bowen and Collinsville’s recyclables are taken to the new MRF in Townsville.