



### Rockhampton Regional Council

#### MATTRESS STRIPPING

Mattresses are a frustration many in the waste industry are familiar with. They take up space, are resistant to compaction and are generally a nuisance for disposal to landfill.



While there are several technological solutions out there for separating mattresses into stuffing and inner springs, Rockhampton Regional Council (RRC), has opted for a simple approach.

Since September 2017 RRC has been separating and manually stripping inner spring mattresses at the Lakes Creek Road Landfill and waste transfer station sites. The inner spring metal is diverted from landfill to the metal recycling, with the remaining loose material, now much easier to compact, sent to landfill.

In the ten months since the initiative began 1,950 mattresses have been stripped, diverting an estimated 20 tonnes from landfill and saving an estimated 680 cubic metres of airspace. Investigations continue for ways to recycle the remaining loose materials.



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## LANDSCAPING FOR THE FUTURE

Rockhampton Regional Waste and Recycling (RRWR) operates the Lakes Creek Road Landfill (LCRL) within 200m of residents and has recently embarked on a 35+ year piggy back expansion of the facility. This expansion will provide approximately 3.5 million cubic metres of air space for waste management. To ensure the facility has minimal visual impact to the residents and uses of the Lakes Creek Road and surrounding areas, the largest tree planting in the Rockhampton Region took place over a two week period and coincided

with National Tree Day. In preparation for the planting, approximately 6,000 cubic metres of green waste mulch was placed along a 1km stretch of frontage last year.

As part of the planting, 2400 native trees were planted that will provide a natural visual screen from the landfill site, in addition to managing erosion and bird nesting (Ibis) in the area. Further landscaping works are planned for the next two years.

*The best time to plant a tree was 20 years ago.*





## LANDFILL STORMWATER MANAGEMENT

Rockhampton Regional Waste and Recycling (RRWR) operates the Lakes Creek Road Landfill (LCRL) that borders on the banks of the Fitzroy river. With the recent floods in 2016 and post Cyclone Marcia that filled the stormwater ponds with flood waters from the Fitzroy, RRWR highlighted the need to provide not only a way of monitoring capacity, but a means of water removal, as natural evaporation of the ponds was not allowing the water to be kept at a level would allow the facility to meet its requirement under the operating licence.

To assist in the management, an engineering assessment was undertaken that took into account the entire landfill site catchment area and the volumes of the storage capacity. Each pond had a level gauge (AHD reading) installed and staff can quickly and easily read the pond level. This level is inputted into a spreadsheet with the forecast rain amount and based on the remaining capacity in the ponds, would provide an immediate answer to the immortal question of “is there enough capacity”.



As part of the overall water management on site, RRWR commissioned an assisted evaporation unit on site. This unit sprays 20 litres per second into the air and has evaporation rates of between 80% (on a hot summers day) to 25% (cooler winter day). The unit is only operated during the day at this stage and over the space of 1 month, it dropped the level the largest storage pond by over 110mm, equating to approximately 2,800 cubic meters of water evaporated. The unit is currently run by a diesel generator with plans for electrical infrastructure to be installed for mains power operation.



## PFAS INVESTIGATIONS



With the increased public awareness of the potential presence of PFAS in the environment, community concerns relating to potential health impacts and investigations being conducted by the Department of Environment and Science, CQG Consulting's team has been busy assisting our clients and conducting investigations across regional Queensland.

Per- and poly-fluoroalkyl substances (PFAS) are found in firefighting foams, some industrial processes, types of fabrics and furniture and cookware. Firefighting foams containing PFAS are reportedly very effective, hence their popular use by Defence and the aviation industry since the 1950s.

Because PFAS can be found in a variety of products, it is not a surprise that PFAS is often detected in sludges from sewage treatment plants and leachates from landfills, both operating and closed. The PFAS National Environmental Management Plan (NEMP) released in January this year is the "go to guide" for PFAS monitoring. It includes landfill acceptance criteria

for PFAS substances, such as PFOS + PFHxS PFOA. The NEMP also states that

*"monitoring of landfill leachate and groundwater, surface water and land receptors should include PFAS in accordance with the regulatory requirements, specifically, conditions imposed for landfills approved to accept solid PFAS-contaminated materials. If regulatory requirements do not exist, monitoring programs should include PFAS."*

The sampling must be conducted by suitably qualified persons (SQPs) with land contamination experience, following the strict protocols (including the sampling team members wearing clothes that have been washed at least 6 times, using special sampling equipment etc), otherwise sample results could be unreliable due to cross contamination.

If you need assistance with sampling of leachate, groundwater or soils at your waste facility, contact CQG' Company Director, Patrice Brown on [patrice.brown@cqgroup.com.au](mailto:patrice.brown@cqgroup.com.au) or mobile 0419760411.





# HINCHINBROOK SHIRE COUNCIL

## LEVY DATA PREPAREDNESS

Hinchinbrook Shire Council recently engaged Mandalay to spend a week on site to conduct an overview of operational and data capture procedures. The purpose of the consult was to build on and improve current processes and start preparing for the introduction of the waste levy.

The week included site visits at both council facilities and interviews with facility attendants and primary Mandalay users to gain an understanding of current procedures.

Major focusses throughout the week including:

- Data cleansing – checking accuracy of data behind the scenes and relevance of data captured;
- Competency training for all Mandalay users
- Financial processes for monthly accounts
- Ticketing 101
- A review of user permissions
- Documentation gaps

By the end of the week the primary Mandalay ticketing operators had learnt new tricks, our data was cleansed, our waste types were more relevant, we all knew the difference between cancelling and replacing tickets, we learnt the importance of recording internal waste movements, we've learnt how to improve data capture and still no one can figure out web based reporting. Work in progress.

All in all the week was very enlightening and a very worthwhile exercise.







### WET WASTE FACILITIES UPGRADED

The upgrade to Tablelands Regional Council's wet waste facilities at the Atherton Transfer Station has been completed ahead of schedule.

"We've been using the upgraded facility since 8 July," said Mayor Joe Paronella.

"The old facility had reached the end of its life and needed renewal.

It meant that we had an opportunity to make our waste collection and disposal far more efficient and cost effective.

The upgrade has increased our storage capacity and given us a bigger loading area for wet waste (red-lidded bins).

The bigger work area means the time taken to load the Springmount landfill trucks is significantly reduced.

It's especially handy when the landfill is closed for public holidays and we need to store extra waste," said Mayor Paronella.

The upgraded facilities are clearly visible when you first enter the transfer station.

BEFORE



AFTER



## PLASTIC WASTE INNOVATION

Townsville City Council has replaced the traditional steel mesh used to reinforce concrete in footpaths with recycled plastic - which would have otherwise been sent to landfill or end up in our oceans.

Local Governments are responsible for building or replacing an estimated 8,000 kilometres of footpaths in Australia each year. Thanks to Queensland engineering firm Fibercon and researchers from James Cook University, Townsville City Council is now using recycled polypropylene (PP) plastic waste in the form of Emesh to reinforce concrete pavements and other infrastructure.

The Emesh product is 100% recycled polypropylene. To date, 65 tonnes of plastic waste has been recycled, with the potential to recycle 5,000 tonnes of plastic waste annually.

1 tonne of plastic is equivalent to around 20,000 2 litre bottles, or 120,000 plastic bags.



**Steel mesh increases CO<sub>2</sub>, is heavily reliant on water and fossil fuels, and does not recycle plastic waste**

Townsville City Council was one of the first in Australia to use Emesh, for 3,500m<sup>2</sup> of pathway on Magnetic Island. Senior Project Manager Bob Hickey explained "There are the environmental benefits that come with the use of recycled plastic, but also the fact that it performs in my opinion better than using steel mesh to control cracking since it provides a consistent product from top to bottom. There are also no problems with corrosion in a saltwater environment. "



**Emesh used in Townsville's iconic Magnetic Island – no steel mesh.**

There are 7 different types of plastic, Polypropylene (PP) is the second most widely used plastic in the world despite this it also has the lowest recycling rate – the American Chemistry Council estimates a rate below 1 percent.

PP is also one of only 3 plastic types which floats – forming a major component of the ocean gyres and estimated an 8 million tonnes of plastic entering the ocean each year.

In the first global analysis of the production, use and fate of all plastics ever made - humans have created 8.3 billion metric tons of plastics since large-scale production began in the early 1950s - roughly half was produced in just the last 13 years ,and an estimated 79% now resides in landfills or the natural environment.

"Recycling is not just putting materials in a recycling bin at the kerbside: collection is only the start of the process" stated Fibercon CEO Mark Combe. "Markets must exist for recyclable materials and buyers must be found for products made with recyclable materials. With China drastically reducing its import of waste in 2017, finding new uses for recycled plastics is more important than ever."

"Simply by using our Emesh instead of steel reinforcement, Councils can contribute significantly to cleaning up our plastic waste", said Mark.



## Boomerang Alliance

### NOOSA LEADING THE WAY TO BE PLASTIC FREE

Plastic Free Noosa is a Boomerang Alliance\* led initiative that focusses around a systematic, source reduction approach to a whole community reducing its use of disposable, single-use plastics. The highly successful program differs from other initiatives in its approach and delivers long-lasting, measurable outcomes.



The basic premise of the program is direct engagement with businesses, events, markets and other organisations to assist them to switch from single-use plastics to better alternatives. However, the program delivers much more than this. Project coordinator Kellie Lindsay said 'We work to deliver real solutions to businesses. It isn't enough to just ask them to remove plastic - what their barriers to transition are, how they create a viable business model, what products they change to, where they can get them and where that product ends up is important as well. We address all these things'.

Key components include working directly with local suppliers to facilitate businesses receiving the right advice and products, partnerships with manufacturers to identify product gaps to enable solutions to be found, creating discounts and bulk purchasing agreements, and working with Council to implement plastic free policies and establish composting and transport solutions.

The benefits to the community are tangible. The project, which began working with businesses in February, now has over 100 business members, with 25 of these having eliminated their plastic and been crowned 'Plastic Free Champions'. Champions are promoted through partnerships with local radio and newspapers, as well as recognised through social media and the project website.

The campaign is set to incorporate other sectors, such as schools, retailers, hotels, grocers etc. but the initial focus has been on the food sector and removing those items that form the most prolific and problematic sources of the litter stream - plastic water bottles, straws, coffee/cups & lids, takeaway containers, foodware and plastic bags.

The Boomerang Alliance has recently implemented the system in Byron Shire on request from Byron Council, and is now looking for other Councils in Qld to partner with.

Could your community be the next one to go plastic free?

By Kellie Lindsay  
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www.plasticfreenoosa.org  
www.boomerangalliance.org.au

**Note: Kellie will be presenting the Noosa system at the LAWMAC meeting on Aug 25th.**

*\* The Boomerang Alliance was formed in 2003 with the aim of a zero-waste society. They are a national 'peak organisation' representing a wide range of allied organisations focused on waste, litter and pollution issues. They have a strong agenda on promoting and instigating solutions. In Qld, they worked with the State Government on the design and implement the Container Refund Scheme and plastic bag ban, serving on the ministerial advisory committee, and are currently part of the External Working group for the Plastic Pollution Reduction Plan. Their current focus is marine pollution and debris, particularly plastic pollution.*





## LAWMAC COUNCILS CONTINUE TO SHINE

The *drumMUSTER* Program has been providing the perfect recycling solution to chemical users since its inception in 1999. Over the last 3 years the LAWMAC area has seen an increase in drums returned. The graph below highlights the results.

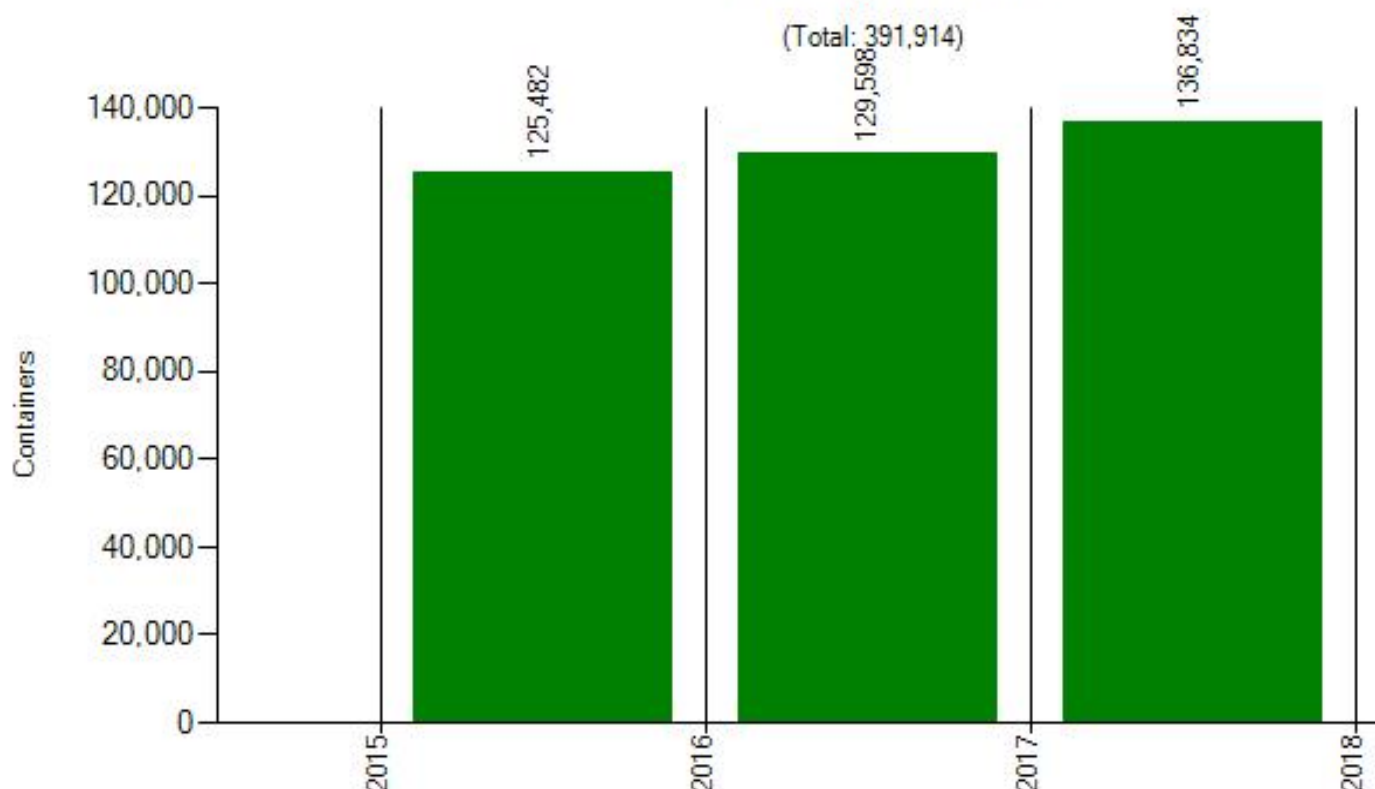
Environmental responsibility is the task of all and farmers and growers in the north are embracing *drumMUSTER* as one of the options for sustainable farm waste management. The bonus for all is that it is free and the drums are guaranteed to be recycled.

The 136,834 drums received last financial years compares to 70,751 received in 2007-08. This is a definite show of support from chemical users in the area and reflects the societies changed attitude to recycling.

Sister program to *drumMUSTER*, ChemClear is also on the agenda. Disposal of unwanted and out of date rural chemicals occurs in Qld every two years and preliminary planning for the next collection in 2019 has commenced. There was 6,045.67 litres of unwanted agvet chemicals collected through ChemClear in the Lawmac region in 2017.

Chemical holders do not have to wait to register unwanted inventory and are encouraged to book in product when it becomes surplus to requirements. The ChemClear website provides the details for registration.

Regional Consultant, Colin Hoey is also available to help out with information etc. Colin can be contacted on 0428 964 576 for enquiries about *drumMUSTER*.



# SHIRTS

## LAWMAC POLOS



Mary Field and Sarah Borchardt (Mackay RC) have been making arrangements for new corporate LAWMAC shirts!

The shirts are sponsored by AECOM, Mandalay Technologies, Remondis, CQG Consulting, Golder, MAMS Group and Resource Innovations.

We are trying to have these available for sale by the August AGM in Rockhampton at \$5 per shirt and will be available at future meetings until sold out.