3 Shire of Roebourne: Using Data to Successfully Run and Improve Waste Operations

This Case Study forms part of a series of resources to assist local governments with the collection and reporting of waste and recycling data. The remaining case studies and a series of Fact Sheets can be downloaded from www.wasteauthority.wa.gov.au/publications/lg-resources.

The Shire of Roebourne is located in the Pilbara region in northern Western Australia. Settlements in the Shire are confined largely to a string of towns along the coastal strip and the North West Coastal Highway, including the townships of Karratha, Dampier, Wickham, Point Samson, Cossack and Roebourne. The largest town, Karratha, is more than 1,500 km from Perth. Despite its remote location, the Shire has a rapidly growing population due to natural resource projects in the region comprised mainly of mining, and oil and gas operations.

The Shire operates the 7 Mile Landfill located approximately 10 km from Karratha that provides a disposal facility for waste generated by residents, businesses and industry within the Shire. The Shire also operates the Roebourne/Wickham transfer station and a weekly municipal solid waste collection service to the townships.

Improving waste services to the community

To improve waste services, resource recovery and recycling outcomes to the community, the Shire of Roebourne proposed the construction of a domestic waste transfer station and an upgrade to the 'front-end' infrastructure at its 7 Mile Landfill site.

The project included development of road and civil works, drop-off facilities, signage and a 'tip shop' at the transfer station; installation of a new weighbridge, upgrade to power supplies, construction of truck wash down bays, investment in signage, CCTV, public art and landscaping to improve 'front end' landfill infrastructure.

Photo: Civil works underway for 7 Mile Transfer Station

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The project will provide to the community:

- Improved environmental performance at the landfill and mitigation of harm or pollution from activities (by being able to more accurately track disposals)
- Extension of the life of the landfill through improved resource recovery efforts
- Reduction in waste disposed to landfill through increased recycling services
- Provision of efficient and safe waste 'drop off' facilities
- Improvement in operational efficiencies
- Moving the Shire towards meeting State Waste Strategy targets for regional areas.

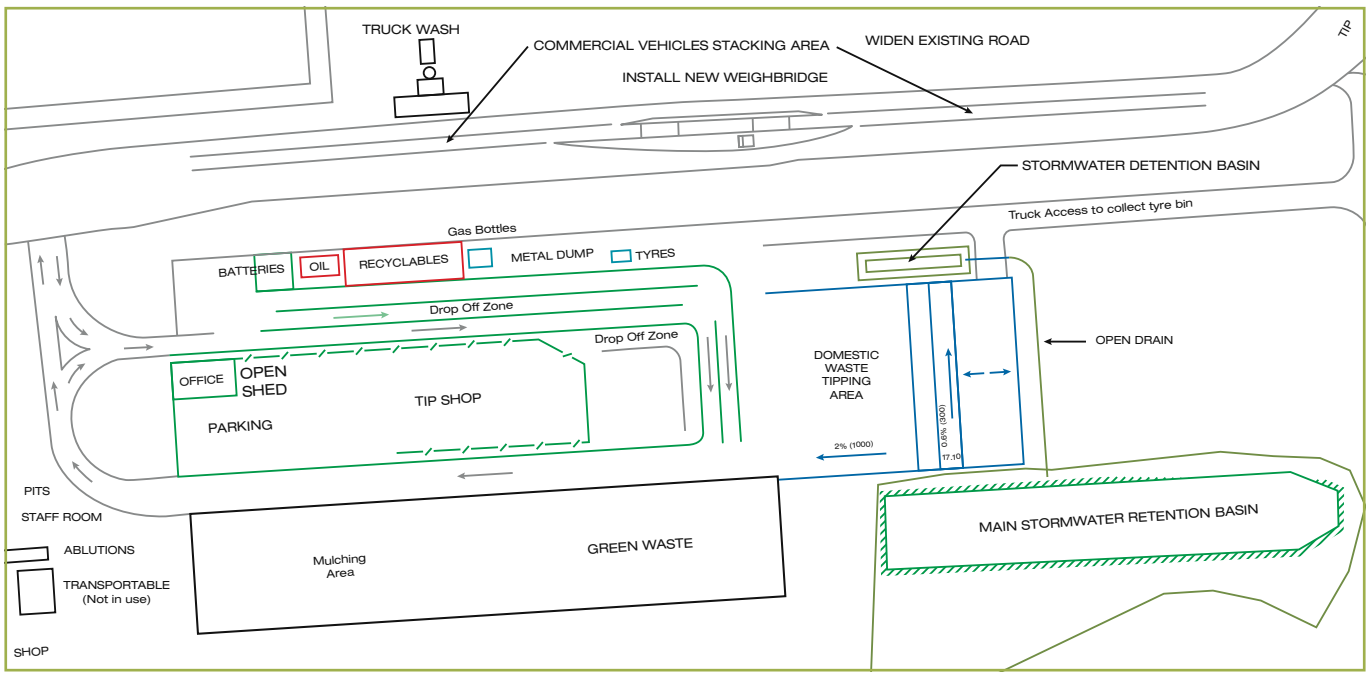

Figure 1: Transfer Station Plan

Using data to inform and justify project decisions

When planning the waste infrastructure project, data on waste disposed to landfill was interrogated to:

- Assess the type and quantities of waste disposed (refer Figure 2)
- Undertake financial planning to determine the viability of recycling services, for instance, modelling on kerbside collection did not prove viable whereas development of a domestic transfer station whereby bulk volumes could be sent to Perth with contractors servicing local industries proved to be cost effective
- Determine timing and requirements (size and environmental requirements) for landfill development
- Develop an expression of interest for the development of a resource recovery facility for commercial waste and legacy wastes, facilitated by knowing waste streams, composition, quantities, equipment available to process
- Determine percentage of waste that would be potentially diverted from landfill through developing and implementing these projects.

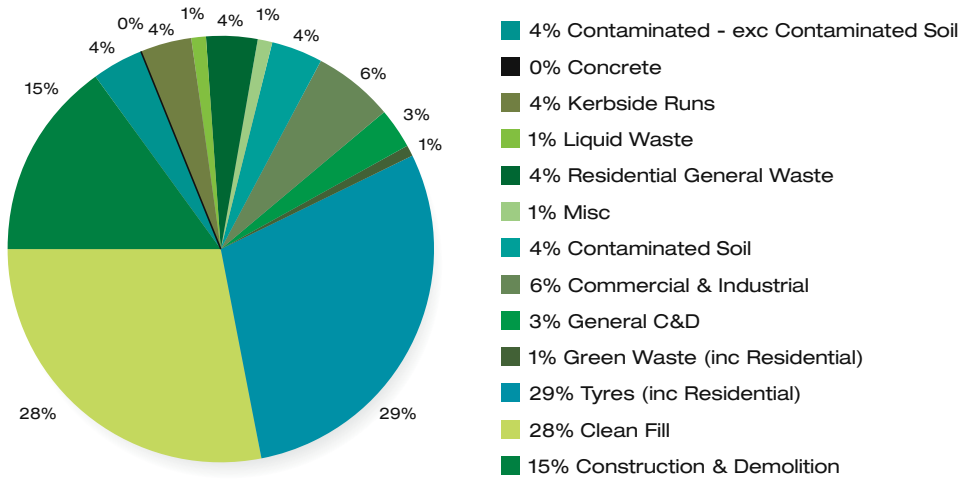

Figure 2: Example of data used to inform project (reports generated through the existing landfill Mandalay software system)

Benefits of data use

- Justifies project expenditure e.g. can readily see benefits in diverting waste from landfill in comparison to cost of recycling services
- Assists with changing behaviour; in regional areas, consideration has not historically been given to resource recovery given the ample landfill options. Viewing data on waste disposed of, and costs compared to, alternatives assists with changing this attitude by providing a strong rationale
- Enables the business to run successfully; by assigning waste to categories and logging quantities received allows for solid financial and operational planning
- Having a data capture and reporting system in place enables year on year comparisons to be made and informs future planning decisions.

'It's having a system ... and without knowing the data, it is difficult to plan business cases for waste infrastructure projects such as a transfer station or a Resource Recovery Facility'.
Steve Wacher, Shire Manager Waste Services

Future steps

With the implementation of a new weighbridge and improved reporting system, data will be used further to assist the implementation of the improved recycling services at the transfer station, monitor the impact on waste disposed of to landfill and of education/ communication campaigns to encourage use of the facilities by the community.