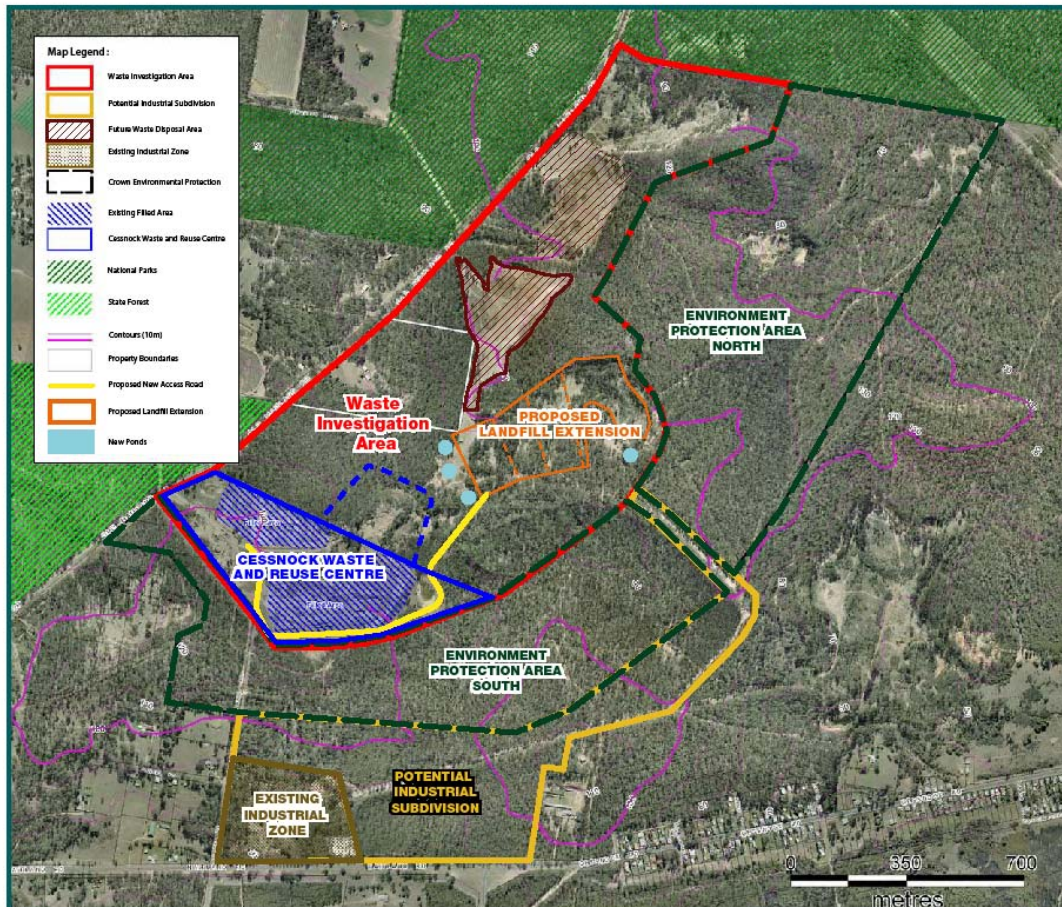




WASTE STRATEGY

2010



Cessnock Waste Management Strategy - 2010

The term waste management is a collective term used to cover a multitude of programs, actions, approaches dealing with the effective management of waste. The programs can be broadly captured under four (4) distinct areas:

- Collection
- Disposal
- Recycling
- Education

Objective:

To provide adequate services, technology and area to manage the City's waste management needs for the short, medium & long term.

Background:

Council operates an in house (day labour) waste management service comprising of waste collection and the operation of a licensed landfill facility.

Kerbside waste collection is provided via single person side load vehicles whilst a kerbside recycling collection is provided under contract via single person side load vehicles.

The solid waste landfill facility is on Crown Land off Old Maitland Road Cessnock. The site has operated for approx 20 years and has approx 4 years remaining.

The general area has a long history of both open cut and under ground mining and gravel extraction. As a consequence of previous activity the area is best described as heavily degraded.

In 1996 Council commissioned a study to identify suitable sites for the areas future waste disposal needs, Maunsell P/L prepared an EIS relating to a site located on vacant Crown land adjacent Councils existing operation. The application was withdrawn by Council prior to determination as a larger proposal which included disposal opportunity for part of Sydney's waste stream (up to 400,000tpa) was put forward. A site of approx 350 ha (including the original Council site) was identified under this proposal.

After considerable public protest the Sydney proposal was abandoned in 1998.

In 2006, Council purchased approx 140 Ha of land from the Crown (Dept of Lands) for the expansion of the Waste & Reuse Centre (Report 32/2006).; The purchase was to designate a Waste Investigation Area (WIA) on land owned by Cessnock City Council. This area covers:

- approximately 142 hectares is located adjacent to Old Maitland Road, including the existing Waste and Reuse Centre site (approximately 31 hectares)
- the proposed landfill extension area and access road (approximately 13 hectares)
- potential area for further extension of the Waste and Reuse Centre (approx 15ha)
- Other than for roads the remaining areas will remain undeveloped.

The site is also located adjacent 149Ha Crown Environmental Protection zone designed to establish buffer zones and flora/fauna linkage areas.

Legislation:

Legislation/regulation has played a key role in relation the management of solid waste. Measures have been taken that:

- Established the licensing of landfills
- The establishment of a waste levy for materials disposed to landfill
- Established a State Waste Strategy
- Proposed (Fed Govt) introduction of an Emissions Trading Scheme (ETS) or Carbon Pollution Reduction Scheme (CPRS)

Landfill Charges:

Landfill fees have risen in recent years through the necessity to meet stringent operating criteria such as:

- Cost of meeting contemporary standards of landfill environmental protection
- The requirement for landfill operators to insure themselves against environmental risks and set aside funds for landfill rehabilitation and after care management and
- Increased landfill levies

Key Drivers for Strategic Waste Management:

A growing number of businesses have recognised the significance of their own waste behaviour and the example they set, evidenced by the adoption of environmental management plans, systems and policies. Many leading corporations have begun to require suppliers to implement environmental management systems. In future access to major markets, especially in Europe, may depend on the wide spread adoption of environmental management systems.

Waste also contributes significant cost to business as well as the community. In addition to the direct cost of disposing of waste, business is increasingly focusing attention of the hidden cost such as wasted raw materials. Hidden costs typically include:

- The value of lost raw materials
- Labour costs associated with internal management
- Energy costs
- Capital costs
- On-site treatment & storage
- Administration
- Lost opportunity cost (from loss of income from generating waste instead of product)

As the service provider that owns and operates both a collection service and disposal facility it is equally as important for Council to have a strategic plan to deal with matters like:

- Capacity (both immediate and long term)
- Population growth and demand
- Efficiency of service
- Adequate resources for task
- Best utilization of resources
- Meet legislative requirements

To this end Council has previously received and adopted waste strategy documents (Report 20/2006). Given the legislative requirements under the State Govt's Waste &

Environment Improvement program it is timely for Council to review the document and update, reflecting changes in legislation, operating conditions and practices.

Strategy

- To secure long term landfill site adjacent the existing site off Old Maitland Rd, Cessnock as an extension to the current facility. This will allow for the continued use of existing infrastructure, meet long term landfill needs, and contribute to the rehabilitation of both the current site and severely degraded land on the extension site.
- Consider the opportunities that may arise if further already degraded area was secured for landfill/rehabilitation in a regional sense and the “real” benefits that may be afforded to Council
- Continue participation/investigation (either under the HIR umbrella or individually) of the opportunity to engage technology to treat the organic fraction
- Continue participation with the members of HRR in providing a kerbside collection of recyclables
- Encourage commercial and industrial players to consider source separation and recycling as a means to achieve both cost savings and Cleaner Production techniques
- Continue to encourage source separation of materials received at the waste management centre that can be further processed, recycled or reused
- Engage the community in recognising that current waste levels are unsustainable & that small efforts individually can contribute to significant reduction in the volume of waste to landfill

Pro-Active Actions To-Date:

- Council has taken pro-active steps to meet the challenges of waste minimisation and reduction through initiatives such as:
 - kerbside recycling
 - differential pricing at landfill site that encourage source separation of materials that can be further reprocessed such as greenwaste, bricks, concrete
 - operating recycling/reuse centre
 - excess domestic recyclable drop-off centre (free)
 - waste oil drop-off facility (free)
 - lawn clipping drop-off facility (free)
- Council has been active in the investigation into the viability of alternate technology to process the kerbside collected waste. This proposal focused on kerbside collected material being delivered to a processing facility where the organic fraction would be directed through an anaerobic digestion process. This system also made significant contribution to the abatement of greenhouse gasses by capturing methane, using the gas as a fuel source and production of electricity. This proposal was abandoned in Feb 2009 due to the uncertainty of the State Govt’s (DECCW) proposed 3F legislation, the classification of output material and the escalating costs.

The investigation revealed that whilst processing will greatly reduce the volume of material destined for landfill there will remain a fraction that will be best managed through landfill.

To meet this need Council requires sufficient volume of land suitable to accept landfill material for the medium to long term ie: minimum period of 20 years.

Strategic Action:

In developing this strategy the approach is one of building on the successful measures taken to date to capture recyclables, divert materials that can be reprocessed and keep abreast of development in technology that may minimise the volume of waste to landfill and make positive contribution to minimising environmental impacts such as water & air pollutants.

In this sense waste management is a collective term used to cover a multitude of programs, actions, approaches. The programs can be broadly captured under four (4) distinct areas:

- Collection
- Disposal
- Recycling
- Education

The current position and proposed strategies under each of these areas is listed below:

Collection:

Council provides approx 19,000 kerbside services per week via side load single person operated collection vehicles.

Action:

- * Maintain a high quality reliable fleet*
- * Continue to monitor technology advancements to provide efficient service and operation*
- * Constantly monitor collection areas to ensure the service is afforded to the greatest number of residents*

Disposal:

Current Site:

The current site is located approx 3.5km from the Cessnock CBD. The site covers approx 31 Ha of which approx 17Ha has been utilised for landfilling purposes. Redesign and development of the current site "infill area" in 2008 has provided increased landfill capacity with a life expectancy of a further 3 years as at 2010, based on current generation rates. This area was subject of amended license approval from the Dept Climate Change & Water (DECCW)

Current Practise

In an effort to preserve valuable landfill space and capture valuable resources a number of different strategies and practices have been introduced that have made considerable contribution to extending the life of the current facility. They include:

Day Cover:

The introduction of the Tarp-o-Matic day cover system. The daily cover of compacted waste is a requirement of the site license issued by the EPA. The system utilises a reusable tarpaulin system in lieu of daily cover with purpose quarried material. The average daily working face of 200m² (20m x 10m) covered to a depth of 150mm x 7 days per week.

Advantages/Savings through Tarp-o-Matic:

- saves approx 200m³ landfill space per week
- saves approx 200m³ of quarried cover material per week (\$10 - 12/m³)
- saves approx \$2400/wk (\$120,000/yr) in operation costs

Fees & Charges:

To encourage residents to present materials that can be reused, recycled or reprocessed a differential pricing system has been applied offering considerable reduction in gate fees. In addition the reprocessed product is offered for sale (at cost recovery) to residents at a price below or competitive to virgin or new materials

Action:

- * Continue to provide a range of opportunities for customers to reduce, recycle and reprocess materials in lieu of landfill*
- * Continue to employ pricing strategies that result in uncontaminated material to be reprocessed into a value added material*
- * Apply "true" cost recovery for disposal that consumes landfill space*
- * Introduce small vehicle receival area with view to better management and opportunities to source separate*

Recycling:

Kerbside Collection:

Since June 1996, Council has provided a domestic fortnightly kerbside collection of recyclables to residents receiving the domestic waste collection service. The service is also provided to the areas local schools. Commercial servicing can be provided either as part of Council overall waste service or under separate contractual arrangement with the contractor depending on specific needs.

The service has proven to be popular and well received by residents with approx 4,000 tonnes of material collected annually from the Cessnock LGA.

The service has expanded over time to include Lifecycle collection, eWaste drop-off and more recently an amalgamation of both into Second Hand Saturday drop off collection.

Action:

- * Continue to provide kerbside recycling service to all domestic properties receiving the domestic waste service*
- * Provide opportunity for commercial properties to receive service*
- * Participate with Hunter Resource Recovery and the service contractor to provide the widest range of recyclables to be collected*
- * Continue to review developments in technology to expand the recycling services*
- * Look to introduce Public Place Recycling bins in addition to litter bins (Public Place Recycling Stations) at the many public facilities within our LGA.*

Drop Off Recycling Facilities:

Introduction of excess recyclable facilities at the waste depot. Council has 2x30 cu m drop off bins on site for paper cardboard & comingled material.

Action:

- * Continue to provide drop off opportunity for excess recyclable materials prior to landfill*
- * Continue to provide used oil disposal opportunity*

- * *Continue to provide metals drop off facility*
- * *Continue to provide lawn clipping drop facility*

Reuse Centre:

With a redesign of the waste service undertaken in 1993 Council introduced a Reuse Centre at the landfill site in an effort to capture reusable and resellable materials upon receipt at the facility. The Reuse Centre has operated under a contract arrangement since 1993 and continues to be popular with residents looking for the “trash & treasure” opportunity

Action:

- * *Continue to operate a Reuse Centre on site*
- * *Monitor the operation of the Reuse Centre to ensure it is both effective and economical*

Reprocessing:

With the ever increasing demand for landfill space many materials have the opportunity to be reprocessed into a reusable material if collected or delivered in a condition that is free of contamination. This approach has been taken for greenwaste (both garden prunings and lawn clippings), hard building and demolition materials such as bricks, concrete, tiles etc, used engine oils

Action:

- * *Continue to encourage self haul source separation via differential pricing mechanism*
- * *Provide at cost buy back opportunity for customers*

Diversion:

As demonstrated with the introduction of the recycling service, and the redirection of many materials at the landfill site, residents and visitors alike are now familiar with the many waste minimisation strategies employed by local authorities and has come to be somewhat expected.

As an example, the domestic application of recycling is now expanding into public areas such as parks, beaches, camp sites train stations and travel terminals etc. Public Place Recycling (PPR) was one of the many green credentials put forward with the Sydney Olympic bid.

Progressively introduce PPR progressively with the higher profile/use areas and new/proposed developments targeted first.

Action:

- * *Council introduce Public Place Recycling Stations at Council facilities, with the higher profile/use areas and new/proposed developments targeted first*

Special Events:

With the developing LGA and the increased attractions held within the LGA often utilising the natural beauty and vineyard setting the area is playing host to many special events ranging from market days to full scale entertainment events. These lifestyle events prove to be extremely popular and attract large crowds (and waste stream). Most of these events include a focus on the food and beverage attributes of the area and as such have a considerable recyclable waste stream much of which is treated as waste simply because of the ease of management.

It is recommended that Council adopt and enforce a Special Events Policy that requires a waste management plan to be submitted (which includes recycling) before any approval will be considered.

Action:

- * *Apply conditions of consent to Special Events that include waste management plan including recycling detail*

Education:

Education is a tool that can take many forms and appeal to a diverse audience. A principle focus of waste education revolves around waste minimisation and litter prevention. Litter is an issue where everyone can take action to make a positive contribution.

Litter can also be viewed as a symbol of a City's image and can be indicative of the sense of community shared amongst its people. The visual appearance of the City and its environs can create not only a poor image for visitors, but a poor example for residents. Such an example can lead to an actual increase in littering as people develop a "don't care attitude." Education programs are also linked to the enforcement strategies and penalties can be issued for offences.

Council has a range of educational materials and actions that are undertaken to attract interest across a broad range of subjects from audiences such as schools, target groups and the general community.

Council is an active participant in the Hunter Waste Educators Group (HWEG) and supporter of programs such as:

- Waste as Art
- Clean Up Australia day
- Adopt-a-Road
- Keep Australia Beautiful
- Tidy Towns/Sustainable Communities

There are also intervention strategies that can be applied such as development control plans. Council has and adopted (7/10/09) a revised chapter (Waste Management and Minimisation) within the DCP.

Action:

- * *Encourage the responsible disposal of waste through education programs (in conjunction with others (eg: KABC), schools, media, and community networks that take pride and a sense of ownership in community cleanliness*
- * *Co-ordinated pick-up and maintenance of litter bins to match required service level*
- * *Implement a community education program informing residents of the potential environmental damage and consequences of littering*
- * *Heightened surveillance and penalties for offenders*
- * *Continue to provide information to interest audiences*
- * *Promote waste wise behaviour and awareness*
- * *Participate on a regional level via groups or bodies such as HCCREMS, DECCW to provide consistent education materials*
- * *Explore all opportunities to achieve economies of scale*
- * *Apply the conditions of the waste management & minimization chapter of the DCP to applicable development*

The Future:

According to the statistical information collected in Census and recorded in-house the population of the Cessnock LGA is expected to continue to grow into the foreseeable future. Current growth rate of around 1% is expected to continue as people seek the unique lifestyle the area has to offer. With development and population growth the demand for waste management and landfilling will continue.

Development of both residential and tourist facilities has shown significant growth in recent time with many of the fringe areas becoming popular subdivision for residential housing. With the development comes the expectation of service and this is prevalent with the waste service. The (Council's) Management Plan identifies actions that encourage the collection service to be extended to as many residents as possible within the available resources. Over the past few years collection services have been extended to many of these areas which has seen the service size grow from 15,000 (1997) to 19,000 (2009). Continual review of growth areas is undertaken to extend the service to deliver the most efficient, cost effective service possible.

It is recognised that collection at the residence is the preferred strategy as it provides the most user friendly option, discourages on-site management which can lead to public health & environmental nuisance & site degradation, mis-use of public facilities (park/litter bins) and illegal dumping

However, it is recognised that there are many geographical and physical constraints such as road condition, bridge load limits and driver safety that prevent the service from expanding across the entire LGA.

Action:

- * *Continue to review areas for expansion of the waste collection service*
- * *Continue to looking at the introduction of technology to treat the organic rich waste stream in lieu of landfill which may reduce the waste stream and provide a resource material*
- * *Investigate the opportunity to expand the current landfill site to secure long term landfill capacity*
- * *Continue to introduce effective means of reducing the volume of waste to landfill and capture of resources (ie: small vehicle receival centre; expansion of recyclables, reprocessing)*

Conclusion:

Council is faced with many challenges to meet the expanding LGA and increasing population growth. One of the most significant of those challenges will be in waste management. Despite the many strategies that have been effective in diverting and reusing resources away from landfill the demand remains.

Council has many challenging decisions to face in the near future, however, the actions and opportunities identified in this strategy aim to see the long term needs of the community met for considerable time to come. With these challenges also comes opportunity. The many degraded areas remaining in the LGA from past mining activity, has presented Council with an opportunity to acquire land that is both suited for landfill and in need of rehabilitation.

This strategy aligns with the NSW State Waste Strategy and forms part of the Governments Waste & Sustainability Improvement program (W&SIP). Under this program the document forms part of the overarching Sustainability Action Plan with identified targets and timeframes.

