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Less waste means less cost for City of Nedlands

New technology used to recover and recycle bulk verge rubbish streams has put the City of Nedlands a significant step closer towards achieving the State Government's target of diverting 65 per cent of all waste from landfill by 2020.

The technology* enables the City to recover household furniture, whitegoods and metal products with minimal contamination.

All waste brought in from collection vehicles undergoes an initial inspection for non-conforming items, followed by the extraction of oversized goods before recyclables undergo a multi-staged segregation process.

Under the new bulk collection and disposal arrangements introduced in 2016-17, 748 tonnes of hard waste and 722 tonnes of green waste was collected from City verges in four weeks – resulting in a 92 per cent recovery rate from landfill.

By comparison, the 2015-16 bulk collection was done over eight weeks and achieved a 52 per cent recovery rate.

City of Nedlands Mayor Max Hipkins said the new arrangement had significantly reduced the need for illegal dumping.

“This is reflected in the reduced tonnages collected which, consequently, has meant a lower cost for the City,” he said.

“The bulk collection waste stream represents 12 per cent of the City's total waste collection, 92 per cent of which is recycled or recovered.

“We've had an increase of five per cent on the City's overall recovery rate, meaning we achieved 54 per cent overall waste diversion in the past financial year compared to WA's average rate of 36 per cent.”

Mayor Hipkins said the City's waste management service was in a strong position and continued to make savings for the City's ratepayers by achieving cost-effective outcomes.

“Since the State Government increased the landfill levy, it's been essential for the City to reduce the need to dispose of waste produced within its limits to maintain lower waste charges for ratepayers,” he said.

“Our new bulk collection and disposal contract has resulted in a decrease of more than 160 tonnes of waste to landfill and a reduction in collection and disposal costs of about \$75,500 compared to the previous year.

“This has also reduced the impact on the appearance of verges with waste removed in half the time – our message is to encourage waste materials to be thought of in terms of a resource to be recovered, reused and recycled wherever possible.

“Our contractor has also advised that 95 per cent of glass collected as part of our recycling program is currently re-used in a road construction material.”



New bulk collection and disposal arrangements have seen the City of Nedlands achieve a 92 per cent recovery rate from landfill.

***Background on the technology:**

All waste from collection vehicles is tipped in an enclosed receival shed where it will undergo an initial inspection to ensure there are not any non-conforming items present in the waste stream. From here, the waste will undergo a pre-sort procedure where any oversize items are extracted by excavators and front end loaders.

After the waste has been pre-sorted, it is fed into West Tip’s state-of-the-art resource recovery plant to undergo a multi-stage segregation process. West Tip’s resource recovery plant uses a system of vibratory screens, density separators, over band magnets, quality control picking cabins and conveyors to sort the incoming mixed waste stream. The primary objective of the process is to recover and clean different material types so that they can be reused or recycled, instead of being sent to landfill. Simply put, this plant turns “waste” into re-usable products.

The vibratory screens that are utilised in the recycling plant are sourced from Germany and are purposely built for the waste recycling industry. The first screen is called a waste recycling screen; there were more than three years of research and

development put into the design of the deck and the frequency and amplitude of the screen to produce pure screening fractions and high grading for mixed waste. The second screen is a twin deck unit that incorporates a “flip flow” cassette on the bottom deck. Flip flow technology is considered to be the best method of screening wet, inert materials.

The system also uses a number of density separators to automatically separate bricks/concrete and timber, as well as cardboard, paper and light plastics. These machines separate these waste types by using controlled, pressurised streams of air.

After the density separators, there are fully enclosed and air-conditioned quality control cabins to ensure the end products clean enough and meet certain specifications to be re-used and re-purposed to be put back to market, instead of landfill.

There are also a number of over band magnets at different stages of the process that repel any ferrous steel from the conveyors.

About the City of Nedlands

The City of Nedlands is situated 7km from Perth and stretches from the banks of the Swan River to the edge of the Indian Ocean. A population of more than 21,000 lives in the suburbs of Nedlands, Dalkeith, Mt Claremont, Swanbourne, Karrakatta and parts of Floreat and Shenton Park.

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