

# Wood Waste Recycling Program Pumps Up Output

As a city's wood waste recycling program increasingly matures, rising volumes necessitated the purchase of new equipment to meet growing demands.

**I**n its early stages, the wood waste recycling program used by the Bakersfield, CA, Department of Public Works' (DPW) Solid Waste Division was bare bones. Implemented to both lower the volume of material landfilled and simultaneously generate a product that could be used by area residents, initial volumes collected and processed were relatively low. Processing was handled by a small, low horsepower grinder that, for the first couple of years, proved adequate. However, as the program matured and volumes increased, it became evident that a larger, more productive grinder was needed.

To say that the wood waste recycling program in place is only for Bakersfield is incorrect. According to Kevin Barnes, the DPW's solid waste director, the area served encompasses far more than just the city itself. "The program as it exists today serves the population of Bakersfield as well as all residents of the unincorporated Kern County immediately surrounding the city. So, given the quarter of a million people living in the city and the 130,000 county residents, our total scope is actually reaching no fewer than 380,000 people."

Barnes says that the program is geared almost exclusively around a drop-off system, with green waste and wood waste—both natural wood material and clean construction and demolition wood—collected at the nearby Mt. Vernon Green Waste Facility.

"The overwhelming majority of our material comes from urban sources: mainly tree trimmings or construction wood from remodeling jobs, fence replacements, and so on. We do have a



*Large tub grinder generates product that is disposed of at a co-generation plant or used by landscapers and grading companies for erosion control purposes.*

collection system in which residents deposit green waste in 64-gal containers for pickup, but that material—more than 50,000 tons per year—goes straight to our composting area. Material that is slated for grinding, however, is collected at Mt. Vernon and sent through a tub grinder to create the mulch product we need. The end product, three-in. and smaller wood chips, is primarily sold to a huge co-generation plant not far from here for biofuel. Other markets for the material include landscapers and grading companies, which find it useful for erosion control. The county finds the material equally valuable for erosion control at its landfill, so we supply them with the mulch they need. And finally, we keep some of the material for our own use. Nothing

generated as part of our wood waste program gets left unused."

Making the move from a small, highly inefficient grinder to a larger one that could help the wood waste program grow was essentially a no-brainer. Deciding which type and model to put to work was a different matter entirely. "We looked at a broad range of grinders and weighed the strengths of each against a list of specifications; price was also a consideration, but performance was the key," Barnes stated. Based on those criteria, the city selected a Morbark 1300 ([www.morbark.com](http://www.morbark.com)) tub grinder, which has provided the performance needed to meet general program growth as well as special needs like an unexpected increase in volume or particularly difficult materials.

One such difficult material is the Mulberry tree, which is seemingly everywhere in the Bakersfield/Kern County region. The tree produces long, slender branches that have to be almost continually pruned. Seeing people coming to the site with 20-ft trailers full of Mulberry branches that have grown up over the summer is not uncommon, Barnes says. The tub-type grinder handled the spindly Mulberry branches well in field trials.

Armed with a more powerful grinder, the city's wood waste program has evolved into a 60,000 tons-per-year success story. Equally important now, says Barnes, is the program's ability to react to sudden unforeseen increases in volume.

"This area, though it might seem otherwise, has a seasonality to it. October through January is the pruning season and we see our volumes rise by at least 50 percent. We are geared up for those volumes and have no problem meeting them. However, occasionally, things happen that we don't anticipate, which put us to the test. In 1998, for example, a freak snowstorm dumped six in. of snow on Bakersfield, overloading the limbs of trees in the area. The result of that storm was one month in which we went from an average of 2,000 truckloads of wood waste per week to 7,000 truckloads a week. It was chaotic and unbelievably challenging, but we proved that we could rise to the occasion. A smaller, less productive grinder would surely not have afforded us the same performance—and the same results."

Barnes and his department recently purchased a second Morbark 1300 tub grinder. He says the purchase was based on a routine life-cycle replacement, but adds that the department now also has a luxury it has never had in the past. "Our studies have found that these units have a five- to seven-year life cycle and we were in our seventh year with the older unit. We felt it was time to bring in another unit, which would allow us to rotate the two machines when routine maintenance needs arise. However, having two grinders also opens up a number of additional possibilities for the program. For example, it is now much easier for us to do some auxiliary portable grinding around the area. After Christmas, we have a number of drop-off sites


where residents can discard their Christmas trees. We can now easily take one or both of the grinders to the sites and grind the trees onsite."

According to Barnes, the DPW has been able to initiate a new program with Bakersfield's Parks & Recreation Department. In the past, when that department did its regular tree maintenance, it would haul the material to the central processing site. Now, satellite locations set up throughout the area serve as processing sites. Doing so will help spread some of the workload around, reducing pressure on the central site, which, he says, is just about at capacity for a single grinder.

"No single piece of equipment can be held responsible or accountable for a program's success," he adds. "However, the performance we've gotten from the tub grinders has been everything the company promised and then some. More importantly, we've gotten excellent support for that equipment and because reducing downtime is as impor-



*Having a pair of tub grinders now allows some auxiliary grinding in the area.*

tant to us as it is to someone in the private sector, that support weighed heavily on our decision when choosing the second unit. We're doing things now that, at the program's outset, we never imagined we'd be doing, and we're seeing new possibilities all the time." 

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