

## Not Your Father's MRF

Northern California's Placer County has been on a growth track, according to U.S. Census data, with its population growing by more than 30 percent between 2000 and 2008. That kind of growth also adds up to more municipal, residential and commercial waste.

Eric Oddo, Senior Civil Engineer with the Western Placer Waste Management Authority (WPWMA), a regional agency providing waste disposal and recycling services for the county and several cities, says the MRF (materials recovery facility) owned by the WPWMA must be configured to meet California's state-mandated recycling goals.

That means everything that comes to the site is processed, with recyclable materials— metal, plastic, many types of paper, glass, wood and yard and land clearing debris—diverted for processing and resale and non-recyclable items sent to the landfill for disposal.

The WPWMA facility began operating in 1995 as a "dirty MRF," with Nortech Waste LLC of Roseville, Calif., receiving a contract for its design, construction and subsequent operation.

By 2001, with the region growing rapidly and California's enactment of Assembly Bill 939 mandating diversion of at least 50 percent from landfills, a major expansion was deemed necessary. The project's goals were to increase diversion by approximately 20 percent and to expand processing capacity from 1,000 tons of trash per day to more than 2,000 tons.

The total price of the project was \$26 million, which included engineering, building modifications, retrofitting of existing equipment, and purchase of new equipment. The Authority was able to fund this amount without having to raise rates or issue bonds.

Nortech once again won the RFP and turned to Machinex, an established provider of MRF technology, to handle design and construction of the project's municipal solid waste recycling facility. Based in Plessisville, Quebec, Canada, Machinex offers full integration of mechanical and optical sorting technologies.

What set this project apart from the rest was its advanced level of sophistication, says Paul Szura, Nortech's general manager. It was a highly collaborative effort from the get-go, with Machinex staff using input from Nortech and the WPWMA to design a system that employed new screening technology. Machinex was able to produce a highly flexible design that incorporated features previously found most often only in clean MRFs, according to Oddo. "We all learned a lot," says Oddo, while Szura remarks that Machinex professionals "went above and beyond" to take the concept from drawing board to reality.



This is one of the first times that this combination of technologies has been used in the “dirty MRF” type of installation, says Oddo. “It definitely changed how we process waste,” he says, adding, “and after viewing our system, other communities are beginning to reconsider their methods for sorting waste and achieving diversion.”

The new MRF processing area and recyclables warehouse opened its doors in 2007 after a year of construction and six to eight months of equipment installation and testing. In addition to achieving substantial savings, the WPWMA has been able to increase the diversion rate and save landfill space, it says



Designed to process up to 2,600 tons of refuse per day—although Paul Szura feels it could go to 2,800 if necessary—the new facility is successfully keeping nearly 50 percent of “what comes in the gate” out of the landfill, according to Oddo. WPWMA’s recovery rate is much improved, exceeding the targeted 50 percent diversion rate by 8 percentage points on average. And were it not for the languishing economy’s effect on export markets for some materials, that figure would probably be at least 10 to 12 percentage points above the WPWMA’s diversion target, the agency says.

The WPWMA MRF has also been designed for flexibility, allowing the operators to respond to changes in the nature of the incoming stream as well as to the vagaries of the worldwide recycling markets. WPWMA operators say they can be ready overnight to accommodate changes in the waste stream or fluctuations in recycler demand.