

MAY 2011

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## MANURE AND FOOD WASTE MANAGEMENT

NEW FRONTIER FOR COMMERCIAL WASTE DIVERSION • WHY WE CAN'T AFFORD TO LANDFILL ORGANICS  
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**75% DIVERSION BY 2013**

# NEW FRONTIER FOR COMMERCIAL WASTE IN SAN JOSE



Aerial map identifies the proposed site for the ZWED anaerobic digestion/composting facility, which is on a 40-acre parcel of land adjacent to the San Jose/Santa Clara wastewater treatment plant. Across the water is Allied's Newby Island facilities, which include a landfill and the resource recovery park.

**O**N April 5, 2011, the San Jose (California) City Council voted to negotiate exclusive 15-year agreements with Allied Waste Services of North America (Allied) and Zero Waste Energy Development (ZWED) to collect and process waste from all businesses citywide. These agreements culminate a two-year process that started in March 2009, when the City Council directed staff to conduct separate commercial solid waste system procurements for organics processing services and franchise collection services in the form of two separate Requests for Proposals (RFP).

The RFP for organics processing was issued on February 4, 2010, with

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*Recently awarded exclusive contracts for collection and processing of commercial waste are designed for convenience on the front-end and maximum recovery — via recycling, anaerobic digestion and composting — on the back end.*

*Part I*

*Nora Goldstein*

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proposals due on April 16, 2010. The RFP for the Commercial Solid Waste and Recyclable Material Collection Franchise followed with release on April 16, 2010, with proposals due by September 22, 2010. Three companies submitted proposals for the organics processing contract; five companies submitted proposals for the collection franchise. Allied was awarded the collection and materials processing contract; ZWED was awarded the contract for organics processing, utilizing anaerobic digestion (AD) followed by composting. Final contracts with Allied and ZWED are expected to be signed and approved by City Council in June.

Driving the switch from an open franchise commercial waste collection system to an exclusive franchise agreement are several key goals, including: San Jose's Green Vision goal of diverting 100 percent of the city's waste from landfill by 2022 and converting waste to energy; standardization of customer service and rates; and the ability to implement environmental innovation and job creation. With one-third of the City's landfilled waste stream coming from businesses, significant changes in this sector are necessary to improve the current

commercial recycling rate of just 22 percent. The new contracts are expected to bring the commercial diversion rate up to 80 percent by 2014, which is 5 percent higher than the city's goal of 75 percent diversion by 2013. The option to process food and food contaminated paper in the AD system will also allow local renewable energy to be produced.

"The city's new commercial waste system showcases innovative services and clean technologies that will help San Jose add green jobs and achieve its Green Vision goals," says Mayor Chuck Reed. "The new system also addresses customer needs by offering consistent, convenient and comprehensive waste services to businesses across the city." Currently, over 20 different haulers service the more than 8,000 commercial, industrial and institutional waste generators in San Jose, and both customer service and rates vary greatly.

Allied currently provides solid waste, recycling, organics processing and disposal services to over 3,500 San Jose commercial customers. "One of the challenges of the open franchise collection system is that there are limited financial incentives for long term planning and investment

by the franchisees because their customer base couldn't be guaranteed," says Michele Young, Organics Manager for the City of San Jose's Environmental Services Department (ESD). "Our waste characterization study conducted in 2008 indicated that nearly 79 percent of the commercial solid waste could be diverted through recycling and composting, but the infrastructure needs to be developed to capture those materials."

#### **PREPARING THE RFPs**

When crafting the RFPs, Environmental Services staff was able to rely on solid support that had already been developed for San Jose's Green Vision Plan, as well as the city's Zero Waste Strategic Plan. "We were fortunate to have an aggressive, overarching Department vision to address the city's priorities," says John Stuffelbean, ESD's Director. "Essentially, the RFPs were designed to address many existing solid waste management challenges through one extensive system change. The fact that there is political support for this level of innovation really gave authority to the proposers to provide very creative responses."

With the authority and the need to rethink all components of the existing commercial waste system, the RFPs were designed to be fairly open ended and allow the private sector proposer to innovate the systems that would meet aggressive diversion and customer service goals. The collection franchise RFP also had to consider fees paid to the city and customer rate stabilization. "The previous fees paid by the franchisee were based on tons disposed, which means that fees paid to the city continue to decrease as the program reaches zero waste," explains Young. "So we built in a flat fee that the franchisee would have to pay annually into the City's general fund." Both RFPs reflected the Green Vision goals of green job creation and use of renewable energy to power processing operations.

Before the RFPs were finalized, ESD staff engaged in extensive stakeholder outreach including in-person interviews, presentations, local media outlets, and on-line surveys to identify business needs and commercial redesign opportunities. Analysis of online survey responses from 500 business customers as well as 22 face to face interviews with key businesses revealed that the biggest barriers to recycling are a lack of service options, a need for assistance with implementing recycling at the business site, inadequate space for recycling containers, and the cost of service.

## **HAULER AND PROCESSOR FEEDBACK**

City staff also met with all of the haulers and processors servicing San Jose's commercial waste sector before writing the RFPs to discuss potential impacts of the city's 75 percent goal as well as other potential service parameters. "We asked for input before we even got started because we wanted to incorporate the most current private sector thinking into the RFP to increase our chances of ending this process with a system that will work and transform the performance of existing operations," explains Jo Zientek, ESD's Deputy Director. "San Jose benefits from the model of contracting with private industry because they bring their expertise about the service, and invest in long-term infrastructure that supports our collection system and goals. Our private partnerships also permit us to quickly adopt and implement new approaches and technologies for our solid waste management system. What we have found over the years is that if we provide the performance parameters, but don't define every service detail in the RFP, it allows the private sector to apply their industry experience to proposals that present the most innovative solutions." The agreements will be managed using performance standards that provide the service requirements, along with administrative charges if contractors do not perform to the agreement standards.

The commercial solid waste RFP process was designed to procure one or two exclusive collection franchisees that would provide most solid waste services and bill all business customers for these services. Respondents to the collection franchise RFP were asked to propose an "annual revenue requirement" to be generated from commercial customer rates to fund solid waste collection, disposal, recyclables processing and organics preprocessing services, as well as the fees to be remitted back to the city. The collection franchisee then remits the organics processing fee (approximately 10% of the total annual revenue requirement) to the City and the City will compensate the organics processor directly from this fee. (Under the contracts to be awarded, Allied will collect and process solid waste and recycling from commercial customers and then deliver the organics portion of the waste to ZWED, who will produce approved products as outlined in the contract, i.e., compost, biogas, or a combination of both.)

The City received proposals that provided approximately 100 service model variations. The Evaluation Panel and technical staff and consultants conducted a comprehensive analysis of each option from a technical basis before costs were considered by a different team of analysts. Program complexities and new innovations warranted robust analysis due to:

- Comparing services based on different combinations of collection container configuration options, multiple collection service districts (North and South), and several collection vehicle alternative fuel types;
- Ranking proposals for Organics Processing and Collection Franchise separately; then determining if the top-ranked proposals from each evaluation were compatible with each other (i.e., the organic waste collected by the Collection Franchise could be processed by the Organics Processing proposer);
- Feasibility of proposed new technologies and collection methodologies;
- Feasibility of achieving waste diversion requirements based on the proposed service model; and
- Reasonableness of the cost proposals.

## **RESULTS OF RFPs**

A March 10, 2011 Memorandum, "Report On Request For Proposals For Commercial Solid Waste System," submitted to Mayor Reed and the City Council, provides a detailed de-



scription of the RFPs and the proposal evaluations, along with recommendations from city staff. The staff report is available for review at: [http://www.sanjoseca.gov/clerk/Agenda/20110405/20110405\\_0701.pdf](http://www.sanjoseca.gov/clerk/Agenda/20110405/20110405_0701.pdf)

Allied's two-container collection system received the top overall score; its One-Bin Plus system ranked number two. When ease of the system for customers was factored in, ESD staff recommended the One-Bin Plus system where a single container and a single truck is used at most businesses to collect garbage, recyclables, and organic waste (which would be bagged separately and placed in the container to avoid cross contamination). The "Plus" piece of the system could be an additional container for generators of significant volumes of organic residuals, such as food waste from a cafeteria.

The total annual revenue requirement for the recommended One-Bin Plus program is \$46.1 million, which will result in lower commercial rates than proposals from other companies. Beginning in July 2012, the Commercial Solid Waste Collection Franchisee would bill the commercial, industrial and institutional customers for commercial solid waste collection

and processing services. From this revenue, Allied is required to remit to the city \$11 million in Commercial Solid Waste Franchise Fees (which includes an additional \$1 million that was offered by Allied above the \$10 million required by the RFP); an estimated \$4 million in Integrated Waste Management (AB939, the state's waste diversion law) Fees; and approximately \$4 million for the Organics Processing costs.

Part II of this article, to be published in June, will focus on the collection and processing systems to be established by Allied and ZWED. Briefly, Allied plans to use its existing Newby Island Resource Recovery Park (NIRRP) in San Jose to process all of the City's commercial waste and is retrofitting this facility with all new waste processing equipment. Since Allied's proposal did not require building a new facility or increasing the total permitted capacity of an existing facility, evaluators felt most confident that Allied's facility would be operational by the start of service on July 1, 2012.

The organics processing RFP did not specify a technology required to process the commercial organic waste in order to allow the proposers to ap-

ply the latest technologies that they were researching and considering. The City received proposals to process through composting and anaerobic digestion. ZWED's compost proposal received the highest overall score and ZWED's anaerobic digestion proposal was ranked second overall. Staff recommended ZWED's anaerobic digestion system (which includes digestate composting) because it would enable the development of new processing technology that would provide local renewable energy as well as compost in an enclosed, filtered system. The company will generate energy through a European dry fermentation anaerobic digestion process, followed by in-vessel composting (Kompoferm and IVC Plus, licensed by Zero Waste Energy, LLC from Eggersmann Anlagenbau). ZWED's organics processing facility will be sited on approximately 40 acres of a city-owned closed landfill site, adjacent to the San Jose/Santa Clara Water Pollution Control Plant and directly between two processing operations already owned by ZWED's sister company, Zanker.

The Collection Franchise and Organics Processing agreements will initiate the new service transition process on July 1, 2011. Several large capital projects need to be completed before services start, including procuring approximately 50 new CNG-powered solid waste collection vehicles; developing a new CNG fueling station; procuring, installing and testing new recyclables processing equipment; procuring and distributing new solid waste collection containers; establishing new accounts on the billing and customer service work order tracking system; and completing construction on the new ZWED anaerobic digestion facility. (Phase I will be designed to process 90,000 tons/year.) Concurrent with the equipment and facility projects, the new collection franchisee will complete extensive customer outreach during the one-year transition period to educate all businesses on the new system and to have them subscribe to an appropriate level of service.

Collection and processing system details are currently under negotiations; final agreements are scheduled for Council consideration in June 2011. "The negotiation process allows us all to be in one room and do creative problem solving," says Zientek. "Now that we know what the program features will be, we can work together to fine-tune the details and add innovations that come from combining ideas to meet program goals." ■