



# Annual Report 2010-11



*Promoting A Future Without Landfills*





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## Salinas Valley Solid Waste Authority



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# General Manager Letter



**S**alinas Valley Solid Waste Authority has much to be proud of despite the ongoing financial challenges posed by a weak economy. We are deeply impressed and proud of how diligently and resourcefully everyone worked to save dollars, all without sacrificing the quality or quantity of Authority's work and service to our customers. We continue to set an example of small and efficient government by focusing on private sector partnerships and local economic development to support and grow our vision of a "future without landfills". The size of our agency compared to the population and large geographic area we serve is a model for others to consider. Even with our small and innovative staff, we saw our regional waste diversion levels continue to improve with a new high of 68% for the 2010 calendar year.

This annual report highlights the Authority's many public service and education programs. During the past year, the Authority reached out to residents and businesses across the county to educate and engage the public on a wide variety of recycling and resource recovery programs. We participated in or lead many public events across the region, focusing on our message of reducing, reusing, and recycling and how the efforts of all our customers are so important to a *future without landfills*.

## Fiscal Challenges

Fiscal year 2010-11 year proved to be one of the most challenging in the history of the Authority and all agencies in the Salinas Valley. The deep economic recession has affected our disposal tonnage, highlighting the need to move away from funding our operations solely on revenue from landfill disposal. The old, outdated model of funding recycling and waste reduction efforts with revenue from waste disposal is not a sustainable model and is in conflict with our vision of *a future without landfills*. Significant progress was made this fiscal year in defining a new rate model that reflects the future of our business. Our overarching goal is to reduce our dependence on burying refuse in a landfill as the primary means to generate revenue needed to fund programs designed to keep refuse out of the landfill. Future rates must be based on the full complement of recycling and resource recovery services provided to the public, and not just landfill disposal.

This fiscal year also brought the development and permitting process for two energy projects to conclusion. Breakdown of garbage placed in landfills creates methane, a very potent greenhouse gas. Collection and treatment of this gas emitting from our landfills is an unfunded Federal and State requirement. The good news is we will soon begin to receive revenue from our partnership with Ameresco (energy developer) for sale of our landfill gas. Ameresco is preparing to begin construction of two projects, one at our closed Crazy Horse Landfill and one at our Johnson Canyon Landfill. The two projects combined will provide new revenues to the Authority of \$500-\$600,000 per year for the next 20 years, and create up to 4.3 MW of power (enough for 4,500 homes). The two projects are a sample of the many projects under consideration to help raise revenues outside of landfill disposal.

## Projects/Programs

This year was another productive year for the Authority. Many new projects and programs approved under our Strategic Plan were started or completed this year:

- Crazy Horse Closure Project was started and will be a showcase for the industry as we utilize a new innovative cover system that will reduce our long term maintenance costs for the site over the next 30 years. Staff has taken on much of the work associated with this project in order to save money and provide better oversight of this critical agency project.
- Staff completed the demolition of the old Covanta building at the Crazy Horse Landfill, saving over \$50,000 in external costs while recycling much of the building for approximately \$10,000 in new revenue.

- An expanded and improved organics management program was started with our newest private sector partner, Vision Recycling, including a compost and mulch sales center at the Sun Street Transfer Station. Vision Recycling is also working closely with staff to recover and process portions of our construction and demolition waste stream.
- In January 2011, the Board concluded over 5 years of conversion technology study and review work by selecting the plasma gasification system from Plasco Energy of Ottawa for detailed environmental study. In recognizing that continuing landfilling **is not** a sustainable long term solution to our waste management needs, many local organizations have begun showing support for the Authority's alternative technology selection process such as the Salinas Valley Chamber of Commerce, Monterey County Farm Bureau, and a number of individual State regulatory agencies and congressional members.
- The Authority continued its research and development of the CR3 Autoclave technology for recovery of paper pulp from the waste residue stream. Our ongoing partnership with the USDA and CR3's development company, Global Organics Energy, is moving this project forward towards commercialization.

## Leading Our Industry

The Authority was the recipient of the national Silver Excellence Award from the Solid Waste Association of North America (SWANA) for our Sun Street Transfer Station operations. This award is an acknowledgement of the excellent and hardworking staff that provide public services in our community every day. This was a competitive process in which the Sun Street Transfer Station was compared against many similar sized facilities across the country, most of which have far more modern facilities and buildings. This is a tribute to the efficiencies and coordination we must maintain to process large volumes of material with such a limited facility and staffing.

We received a number of other awards and acknowledgements this year:

"Clean Air Award" from Breathe California, for efforts to move away from landfilling utilizing cleaner waste processing technologies. We received congressional recognition from Congressman Sam Farr for this effort.

"Curbee Award" from Republic Waste Services for our Community Recycling Efforts.

"Service Above Self Award" from the San Andreas Regional Center for commitment to providing employment and job skill opportunities to developmentally disabled adults.

"2011 Member of the Month" from the Salinas Valley Chamber of Commerce

Despite the many challenges we faced in 2010-11, staff rose to each and every challenge, stayed within budget, expanded and improved public services, exemplified innovation, and most importantly continued to focus on our vision of *a future without landfills*.

On behalf of staff and all our community partners, we want to thank the public, our member agencies and the Authority Board of Directors for all their support, recognition, leadership and dedication to creating a sustainable recycling and resource recovery program for the entire Salinas Valley.



R. Patrick Mathews  
General Manager / Chief Administrative Officer





# Board of Directors



Gloria De La Rosa  
President  
Executive Committee  
City of Salinas  
Since 2001



Fernando Armenta  
Vice President  
Executive Committee  
County of Monterey  
Since 1997



Liz Silva  
Alternate Vice President  
Executive Committee  
City of Gonzales  
Since 2010



Lou Calcagno  
County of Monterey  
Since 1997



Dennis Donohue  
City of Salinas  
Since 2007



Robert Cullen  
City of King  
Since 2008



Jyl Lutes  
City of Salinas  
Since 2010



Yolanda Teneyuque  
City of Greenfield  
2004-07  
Since 2010



Richard Perez  
City of Soledad  
Since 2010

## Mission Statement

"To manage Salinas Valley solid waste as a resource, promoting sustainable, environmentally sound and cost effective practices through an integrated system of waste reduction, reuse, recycling, innovative technology, customer service and education."

## Vision Statement

"To reduce the amount of waste by promoting individual and corporate responsibility. To recover waste for its highest and best use while balancing rates and services. To transform our business from burying waste to utilizing waste as a resource. To eliminate the need for landfills."

## Values

Innovation \* Integrity \* Public Education \* Efficiency  
Fiscally Prudent \* Resourcefulness \* Customer Service  
Community Partnerships

## Strategic Objectives

- Develop a Sustainable Finance Plan
- Promote Authority's Role and Value as a Resource Recovery Agency
- Develop and Implement an Integrated System of Waste Reduction
- Achieve 75% Diversion by 2015
- Enhance Existing Facilities and Public Services
- Promote and Maintain a High Performance, Efficient and Flexible Workforce

## Board of Directors

The SVSWA Board of Directors consists of nine board members and six alternate members, representing the cities of Salinas, Gonzales, Soledad, Greenfield, and King City as well as the eastern part of Monterey County.

The SVSWA Board of Directors meets on the third Thursday of each month, beginning at 6:00 p.m. The meetings are held in the City of Gonzales Council Chambers located at 117 Fourth Street in Gonzales. Executive Committee meetings are at 12:00 p.m. in the SVSWA Conference Room, located at 128 Sun Street, Suite 101 in Salinas.

# Strategic Objective Accomplishments

SVSWA Strategic Plan drove the development, implementation and completion of the following projects and programs. Some of our most significant accomplishments and achievements are noted below, in accordance with our strategic plan.

## Develop a Sustainable Finance Plan

- Included capital improvement plan in budget
- Held flow control meetings with member agencies
- Increased sale and revenue of diverted materials
- Received biodiesel grant and began implementation
- Prepared new rate model (not yet implemented)

## Promote Authority's Role and Value as a Resource Recovery Agency

- Continued promoting services on radio, TV, online
- Increased diverted materials by 55% at Sun Street
- Completed customer survey in 2010
- Increased participation in local community and organizations
- Monterey County Business Council completed economic value study

## Achieve 75% Diversion by 2015

- Selected conversion technologies for environmental review
- Adopted mandatory recycling ordinance; implemented in Greenfield and Salinas
- Selected new green waste processor/composter
- Partnered with Santa Cruz County for construction and demolition processing
- Completed Materials Recovery Center at Sun Street; planned for Johnson Canyon
- Supported Polystyrene Ban

## Enhance Existing Facilities and Public Services

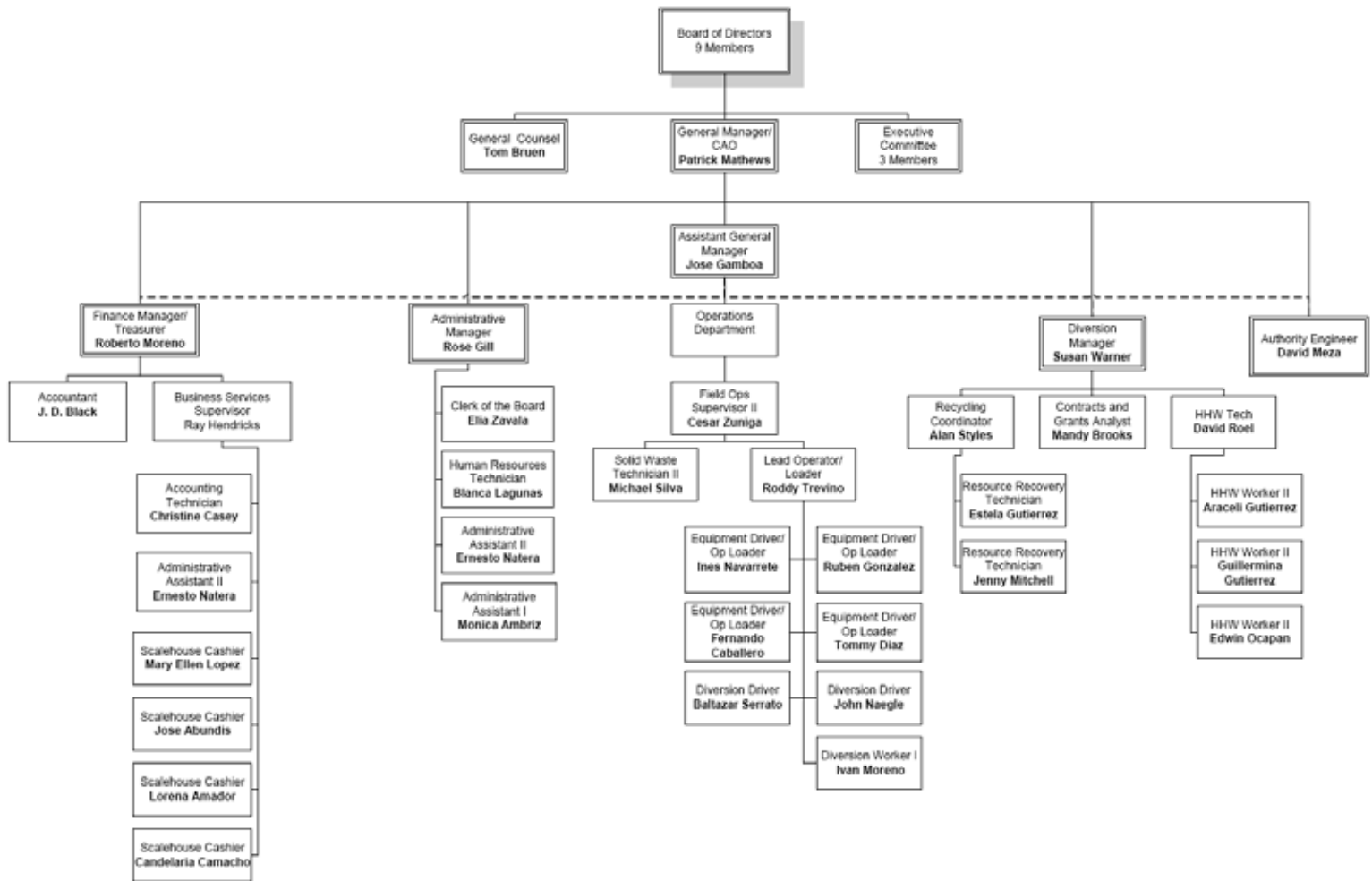
- Continued discussion with the County regarding Gloria and Iverson roadway improvements. Continue to work for grant resources for funding.
- Developed concept drawings for three candidate sites for a Salinas Area Transfer Station
- Started construction of the Crazy Horse landfill closure project
- Continued the development of the environmental control operations plan.

## Promote and Maintain a High Performance, Efficient and Flexible Workforce

- Created Employee Focus Groups
- Developed Mentoring Program



# 2010-11 Authority Staff



The Authority staff ensures that day to day operations run smoothly. Some of the operations consist of assisting customers to find the most convenient recycling location for household items, promoting recycling at schools and apartment complexes, transporting materials such as solid waste and yard waste to the Johnson Canyon Sanitary Landfill in Gonzales, while keeping the Authority landfills and transfer stations safe.



Estela presenting recycling information at a public event



Troy assisting a customer on where an item should be dropped off



Araceli helping a customer dispose paint properly



Mary Ellen directing a customer to the appropriate disposal area



# Authority Facilities

The Authority has three facilities to serve the disposal and recycling needs of residents in the Salinas Valley. Residents can bring an assortment of items for recycling or proper disposal.

## Sun Street Recycling Center

139 Sun Street, Salinas, CA  
Mon - Sat, 8am - 5pm (424-5535)



## Johnson Canyon Landfill

31400 Johnson Canyon Road, Gonzales, CA  
Mon - Fri, 7am- 4pm (675-2165)  
Sat—Sun, 8am—4pm



## Jolon Road Transfer Station

52654 Jolon Road, King City, CA  
Mon - Fri, 8AM - 4PM (385-6213)  
Saturday, 8AM - 12PM



Items Accepted at Authority Facilities			
	Sun Street	Jolon Road	Johnson Canyon
Solid Waste	✓	✓	✓
Yard Waste	✓	✓	✓
Construction & Demolition	✓	✓	✓
Cardboard	✓	✓	✓
Mixed Paper	✓	✓	✓
Plastics 1-7	✓	✓	✓
Glass	✓	✓	✓
Metal	✓	✓	✓
Electronic Waste	✓	✓	✓
Appliances - Washers - Dryers - Water Heaters - Refrigerators	✓	✓	✓
Tires	✓	✓	✓
Field Plastic			✓
Mattresses	✓	✓	✓
Dirt			✓
Antifreeze	✓	✓	✓
Batteries	✓	✓	✓
Oil	✓	✓	✓
Paint	✓	✓	✓
Other HHW* Material	✓		
Please contact your nearest facility for further details and costs			
*HHW—Household Hazardous Waste Facility			

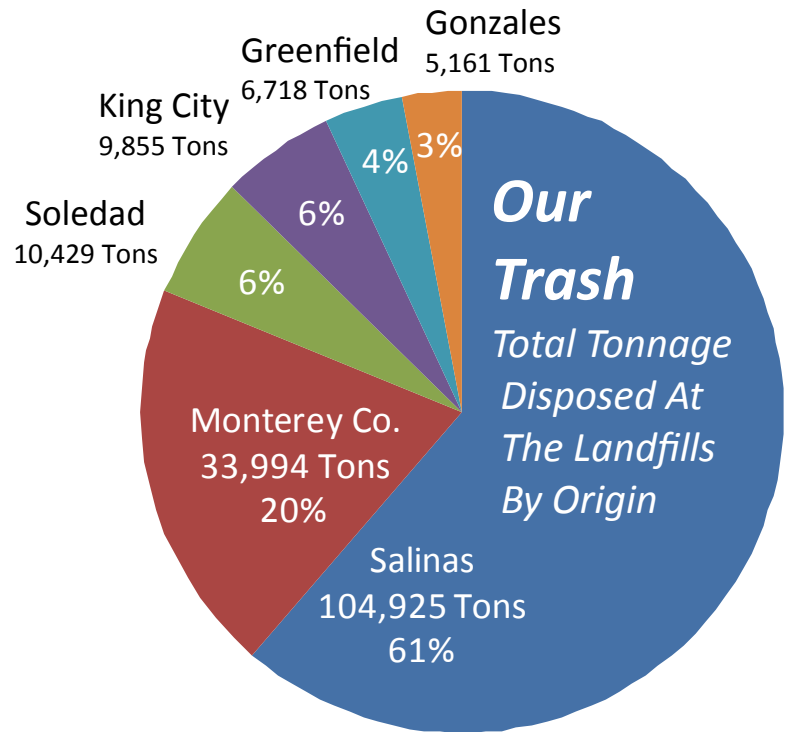
# Tonnage Information



Dozers compacting waste at the landfill



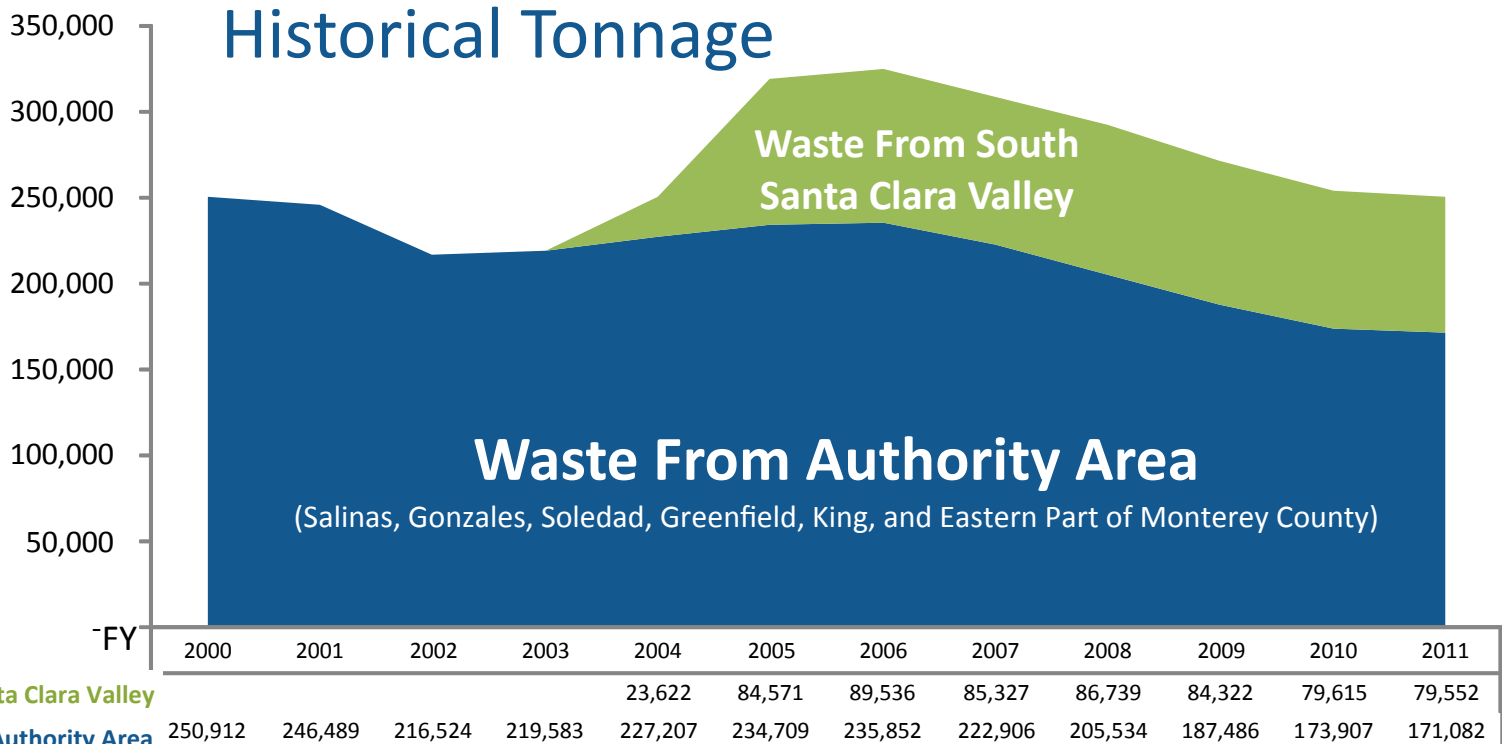
Waste disposal trucks unloading waste



## Landfilled Tonnage FY 2010-11

Authority Area:	171,082 Tons
Santa Clara Valley:	79,552 Tons
Other:	49 Tons
<b>Total Tons Landfilled:</b>	<b>250,683 Tons</b>

## Historical Tonnage



# Operating Budget Summary

The Authority's revenue continued to decrease in FY 2010-11 due to the continued decrease in tonnage as shown in the previous page. Due to the recession, investment earnings continue to decrease.

The Authority's expenditures reached an all-time low as expenditures were reduced as far as possible. The Authority continues to look for ways to develop a sustainable business model, one that is not so overly dependent on the amount of solid waste that is being handled.

	Actual FY 2009-10	Actual FY 2010-11	Budgeted FY 2011-12
<u>Revenue</u>			
Tipping Fees	\$ 12,418,053	\$ 12,271,111	\$ 12,001,600
South Valley	2,215,711	2,211,254	2,243,300
Investment Earnings	308,016	244,869	273,000
Sales Recycled Materials	405,466	433,359	429,500
Grants & Other Revenue	517,968	293,307	179,000
<b>TOTAL REVENUE</b>	<b>\$ 15,865,214</b>	<b>\$ 15,453,900</b>	<b>\$ 15,126,400</b>
<u>Expenditures</u>			
Administration	\$ 2,225,191	\$ 2,232,604	\$ 2,306,094
Resource Recovery	1,957,842	1,939,348	2,356,772
Scalehouse Operations	331,857	321,688	327,409
Landfill Operations	4,282,242	3,424,799	3,148,411
Transfer Stations Operations	2,806,876	2,496,833	2,577,150
ECS Operations	620,251	592,244	708,344
Closure Costs	979,045	296,939	277,700
Debt Services	3,138,251	3,138,188	3,139,800
<b>TOTAL EXPENDITURES</b>	<b>\$ 16,341,555</b>	<b>\$ 14,442,643</b>	<b>\$ 14,841,680</b>



View of new Vision Recycling Compost Retail Outlet at the Sun Street Recycling Center



# Household Hazardous Waste Collection

Many common products that we use in our daily lives contain potentially hazardous ingredients and require special care when disposed. It is illegal to dispose of hazardous waste in the garbage, down storm drains, or onto the ground. Chemicals and improperly disposed materials can be released into the environment and contaminate our air, water, and possibly the food we eat. By throwing hazardous waste in the garbage, you can cause additional hazards to your garbage handler.

Regulations to protect public health and the environment have been changing. This is because we now know that some common items that have traditionally been thrown in your household's or small business's trash cannot be safely disposed in landfills.



Most household chemicals are illegal to dispose in your trash

## What is Universal Waste?

Fluorescent tubes, mercury containing switches, thermostats and thermometers, cathode ray tubes (CRTs), and all types of household batteries regular and rechargeable.

## What is Electronic Waste?

Any household device that runs off 110/220 AC current. Large industrial electronics and machines may also have small internal electronic devices that must be removed at our facility as e-waste and the large machinery is recycled as scrap metal.

## Why can I only bring 125 lbs. / 15 gal. of HHW?

This 125 lb. limit is set forth by Federal and State Law in accordance with the Department of Toxic Substance Control, Department of Transportation and California Vehicle Code of Regulations. These laws were set in place to prevent contamination of our environment due to hazardous waste spills by public haulers. Each household licensed driver may also bring 125 lbs. themselves at no charge.

## Household Hazardous Waste Participants



# HHW Safe Disposal and Recycling

## Items Accepted at the Household Hazardous Waste Facilities

Paint, thinners, and solvents  
 Cleaners such as bleach and drain openers  
 Cooking oil and grease  
 Fertilizer and pesticides  
 Motor oil and filters  
 Antifreeze and auto products  
 Batteries  
 Aerosol (spray) cans  
 Fluorescent light bulbs  
 Needles, razors, and syringes  
 Electronics  
 Televisions, computers, and cell phones  
 Items containing mercury

## Did you know

***It is illegal to dispose of batteries in your trash container. Most retailers will accept old batteries for recycling.***



## Household Hazardous Waste Collected During FY 2010-11

Material	Pounds Collected
Flammable Solids / Liquids	7,200
Oil Base Paint	59,500
Poisons	13,475
Acid	7,750
Base	14,475
Oxidizer	1,440
PCB Containing	361
Antifreeze	4,725
Auto Batteries	27,523
Latex Paint	81,950
Motor Oil	76,375
Used Oil Filters	2,875
Mercury containing	90
Fluorescent Lamps	21,409
Household Batteries	16,100
Electronic Waste	832,309
Universal Waste	322,407
Sharps & Pharmaceutical Waste	103
Gas Cylinders	7,635
Non Universal Waste Containers	9,020
Other Materials	4,000
<b>Total Pounds Collected</b>	<b>1,510,772</b>
<b>Total Customers for 2010-11</b>	<b>7,975</b>

## HHW Location & Hours

139 Sun St.                      Monday—Saturday  
 Salinas, CA                      8:00 AM—5:00 PM  
 (831) 424-5520                  No Businesses on Mondays

**Do not transport more than 15 gallons or 125 pounds of HHW. Bring chemicals in secure containers and do not mix them! Do not bring explosives, radioactive material, drums, medical waste, or unstable chemicals.**

# Innovation at its Best!

## Crazy Horse Building Demolition

The Crazy Horse Closure project continues in full progress. One building, housing an engine which pulled landfill gas from the landfill, needed to be removed. The demolition of the building was estimated to cost \$50,000 if it was completed by a vendor. The Authority staff decided to complete the project internally and sell the metal from the building to cover cost. The building yielded 50 tons of metal resulting in \$10,000 in revenue, which was enough to cover permitting and inspection costs for demolition.



Crazy Horse building before demolition

## School and Multi-family program



Estela demonstrating recycling techniques at Head Start Fremont

The Authority has been working with schools and apartment complexes throughout the Salinas Valley to implement and improve recycling programs. As a result, many locations which implemented recycling programs have seen a reduction in disposal costs. The program has been such a success that the City of Monterey has adopted the Authority's school program as a model.

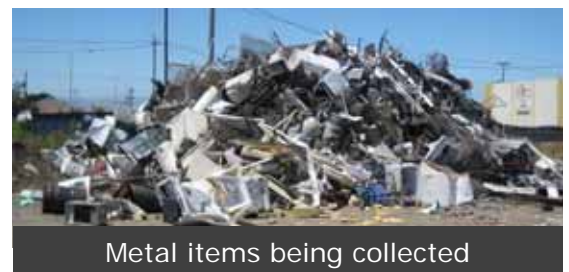
## Diverted Materials Recycling

The Authority is working on becoming a Resource Recovery Agency by focusing on increasing revenue through expanded recycling programs. In total, the Authority received over \$400,000 for recycled material. Below are two examples of how the Authority has been increasing its recycling program.

Diverted Material	Tons	Revenue
Metal	1,095	\$212,850
Electronic Waste	596	\$111,789
Cardboard	706	\$59,290
Plastic	285	\$12,156
Mixed Paper	91	\$5,303
Mixed Glass	5	\$657



Monitors being stacked for recycling



Metal items being collected



# Awards

## 2011 Silver Transfer Station Excellence Award

The Solid Waste Association of North America awarded the 2011 Silver Transfer Station Excellence Award to the Authority for operational efficiencies and accomplishments at the Sun Street Transfer Station. The Authority received the award at the national industry convention in Nashville, TN.



Jose receiving SWANA's Silver Award

## 2011 Clean Air Award for Technology

Breathe California Central Coast awarded the 2011 Clean Air Award to the Authority for technology and progress in moving away from landfills and utilizing cleaner waste processing technologies. The Authority received congressional recognition from Congressman Sam Farr.

## Service Above Self Award

San Andreas Regional Center awarded the Authority a "Service Above Self Award" for its commitment to providing employment and job skill opportunities to developmentally disabled adults.



Patrick receiving Breathe California Clean Air Award

## 2011 Curbee Award

Republic Services awarded the Curbee Award to the Authority at the City of Salinas City Council meeting on April 12, 2011, for outstanding efforts in reducing waste and recycling.

## April 2011 Member of the Month

The Salinas Valley Chamber of Commerce selected the Authority as the Member of the Month for promoting diversion and recycling in the Salinas Valley.



Authority staff recognized as the Salinas Valley Chamber of Commerce member of the month for April 2011

# Diversion

## Annual Diversion Rates

CITY	2005	2006	2007	2008	2009	2010*
Salinas	60%	61%	64%	70%	69%	71%
Gonzales	45%	40%	62%	64%	62%	62%
Soledad	54%	50%	55%	59%	60%	59%
Greenfield	23%	24%	55%	56%	54%	50%
King City	78%	78%	76%	79%	80%	81%
Unincorporated Monterey County	63%	54%	54%	53%	62%	58%

\* 2010 rates are still preliminary.

*The Authority's regional diversion rate increased to 68% for the calendar year 2010*



Customers dropping off their recyclables at the Sun Street Recycling Center

## Organics Program

The Authority has expanded its Organics Program to incorporate several new or improved elements:

### Food Compost Program

The Authority has partnered with Republic Waste Services, Converted Organics, and several local businesses and schools to implement a pilot program for converting food waste to liquid fertilizer.

### Compost Retail Center

Vision Services has opened a compost center at the Sun Street Recycling Center. Customers can purchase compost, soil amendments, and wood chips.

Want to turn yard waste and kitchen scraps into rich, organic fertilizer for your garden? Purchase a compost bin at the Scalehouse and learn how to start a compost pile in your backyard by visiting us at: [www.svswa.org/healthy\\_gardening.cfm](http://www.svswa.org/healthy_gardening.cfm)



Andrew explaining how wood chips are created



Compost bin

# Grants

## Motor Vehicle Emissions Reduction Grant



Authority trucks are now using Biofuel

The Authority, in partnership with the City of Salinas, received \$61,339 in grant funding from the Monterey Bay Unified Air Pollution Control District's (MBUAPCD) AB 2766 Motor Vehicle Emissions Reduction Grant Program to install and utilize a Biodiesel (B20) fuel tank. The tank will be housed at the Sun Street Recycling Center, and all diesel vehicles and equipment operated by the Authority and the City's Fleet Maintenance Department will transition to run on B20. The funding also provides for fuel line and fuel filter replacements on a total of 35 vehicles. According to MBUAPCD's calculations, this project is expected to reduce Green House Gas Emissions to the Salinas Valley by more than 1,540 tons over the course of the 15 year project period.

## Tire Amnesty Grant

The Authority received a CalRecycle FY2010-11 Local Government Waste Tire Amnesty Event Grant in the amount of \$60,864 to continue to hold free tire recycling events for residents of the Salinas Valley. The Authority hosted a series of events that rotated between each of the Authority's three facilities – Sun Street Recycling Center, Johnson Canyon Landfill, and Jolon Road Transfer Station. Last fiscal year the program collected and recycled 21,670 waste tires, and this year the Authority expects to collect and recycle over 30,000 waste tires.



Tires received through Tire Amnesty Grant

## It Pays to Recycle



Soledad Unified School District

### Soledad Unified School District saved \$35,000

The School District's waste disposal expenses for its seven schools amounted to \$181,000 in 2008. After implementing several programs, including classroom recycling containers and milk carton recycling program, annual waste disposal expenses have been reduced by more than \$35,000.

### Las Jicamas Apartment Complex

The Apartment Complex has launched a Multi-family Recycling Program. The complex has cut their waste disposal costs in half and are saving over \$10,000 a year! These funds are now used to improve the facility, while enhancing the residents way of life.

**WANT TO GET IN ON THE GREEN?** Contact the Authority to learn how your organization can expand your recycling and reduce your disposal expenses. Call us at (831) 775-3000 and ask to schedule a Waste Assessment. It's good for you and the planet.



# Outreach to Schools and Communities

The Authority is always striving to promote organizations to become more aware about reuse and recycling opportunities in the community. 15 schools participated in waste assessments performed on their recycling and waste system. Each school was provided with guidance and materials to improve their recycling.



Students participating in a waste assessment



Wally Waste-not in El Grito parade



School recycling program



RecycleRama presentation

## Public Events

YMCA Soledad  
La Posada Apartments  
Leadership Academy in Gonzales  
Soledad High School  
Fairview Middle School  
Washington Middle School  
Alta Street in Gonzales  
Soledad High School HOPE Team  
Dia Del Trabajador in Greenfield  
Las Casas de Madera in Salinas  
Monterey County Office of Education Building  
Monterey County Fair  
Violini Camp in Gonzales  
Villa San Miguel in King City  
El Grito Event in Salinas  
Soledad High School FFA Team  
Las Jicamas in Soledad  
Monterey County Environmental Day  
Philipino Community Center in Salinas  
Shadowbrooks Apartments in Salinas  
Buena Vista Apartments in Salinas  
Healthy and Safety Day in Gonzales  
Chalone Middle School  
Jardines de Soledad

Townhomes Apartments in Soledad  
Parade of Lights in Salinas  
Community Day at the Aquarium in Monterey  
El Sausal Middle School  
Harden Ranch Apartments in Salinas  
Head Start Foster Grandparents  
Monterey Park School  
South County Expo in Soledad  
Frank Ledesma School in Soledad  
CHISPA Maintenance Department  
Tynan Village in Salinas  
Towers Apartments in Gonzales  
Parkside Apartments in Gonzales  
La Paz Middle School in Salinas  
Harden Middle School in Salinas  
Green Gardner's class in Salinas  
Fenoe Apartments in Gonzales  
Sherwood Center in Salinas  
Greenfield High School

*Would you like to have the Authority perform a waste assessment free at your office, business, or school? Please call us at 775-3000*

## RecycleRama

RecycleRama is an outreach program that is sponsored by the Salinas Valley Solid Waste Authority, performing more than 42 shows for various schools and other organizations throughout our area. The program consists of promoting the three Rs, waste reduction, reusing items, and recycling. It is performed through a fun and interactive presentation to get kids involved and interested in recycling.

**42 RecycleRama shows were performed during FY 2010-11**

If you would like to have an event at your organization or school, please contact us at (831) 775-3000.

# Crazy Horse Closure Project

The closure of Crazy Horse Canyon Landfill will be the most complex and expensive project that the Salinas Valley Solid Waste Authority will undertake since the Agency was formed in 1997. The landfill site has been operating since 1934.

State and Federal mandates dictate how the landfill must be covered in order to ensure its physical stability, environmental compliance, and aesthetics. The regulatory requirements to close a landfill follow strict engineering designs and they must be State approved. In addition, State and Federal regulation requires that funds must be set aside to ensure that the landfill will be properly maintained for 30 years after closure.

The closure project at Crazy Horse is an environmental construction project designed to meet or exceed safety standards and protect our community by designing environmental systems to prevent contamination of air, water, and soil.

The design includes a protective cap or layer covering the section of the landfill where trash has been placed in order to prevent rain water from penetrating beneath the final cover and make contact with trash. In addition, a complex landfill gas system is being designed and will be installed in order to capture gas, create electricity, and prevent it from contaminating the environment.

The Crazy Horse Closure project is unique, as it also includes a top cover layer of closure turf. This provides a protective layer while eliminating the need for large amounts of soil to be added.



Crazy Horse Closure Site Plan



Liner rolls arriving for installation



Installation of closure turf on test pad



Liner rolls being installed



Landfill gas wells being installed



Liner rolls being welded together

# Conversion Technology

## History & Future

The Board of Directors began investigating alternatives to landfill disposal of solid waste in February 2005 with a series of study sessions. Due to the 2005 approval of a goal to achieve 75% Diversion from Landfills by 2015, the focus shifted to researching emerging technologies. This goal was reaffirmed by the Board as one of the Strategic Objectives adopted in August 2010. Integral to this process was the completion of a Waste Composition Study in 2007, which defined the Authority's waste stream and allows for the implementation of diversion programs specific to the types of waste that can be effectively recycled. Only the waste which cannot be separated or reclaimed is proposed as feedstock for a transformation technology.

The four-member Conversion Technology Commission was formed following the determination that a non-combustion based technology would be preferred, as well as the suspension of further investigation on the properties identified for a future landfill site. The goal of the Commission was to identify the best and most effective conversion technology(ies) applicable to the Salinas Valley.

The Commission visited both aerobic and anaerobic composting facilities, materials recovery facilities, the UC Davis biodigester, autoclave facilities, gasification plants in California and Japan, a methane to electricity generation plant, waste to energy plants, and a plasma arc gasification facility in Canada.

Following the Statement of Qualifications and Requests for Proposal process initiated in January 2008, three proposals were extensively reviewed and ranked based on these goals and objectives:

- Maximize diversion
- Comparable gate fees
- Reduce impact on Greenhouse Gas
- Education Center
- Separate, recycle or reuse materials
- Organic Composting or Anaerobic Digestion
- Financially self sustaining
- Public-private partnership

Rotating steam autoclave reaction vessel, 6' diameter x 15' long, 2 ton capacity



Staff discussed worked with the two top ranked vendors, Plasco Energy and Urbaser S.A., to define the projects proposed as the cornerstone of the Authority's transition of the Johnson Canyon Landfill into a Resource Management Park. At its meeting in January 2011, the Board selected the plasma gasification technology created by Plasco Energy and the steam autoclave to go forward through the environmental review process in accordance with the California Environmental Quality Act.

After receiving proposals from six firms, Environmental Science Associates was selected to prepare the Environmental Impact Report. A series of public meetings will be held in advance of publication of the Report, following by a comments period. Responses to all comments received will be included in the final Report to be considered by the Board. This process is anticipated to start in October 2011 and conclude by the end of 2013.





# Conversion Technology

## Q & A

### What is a steam autoclave?

The autoclave is a rotating pressure vessel that uses high and low pressure steam as well as recirculating hot oil to a processing temperature of 280 degrees Fahrenheit. The result of this process is an organic pulp and inorganic residual which are separated for further processing. The organic pulp can be used as paper pulp, refined into ethanol or mixed with compost.

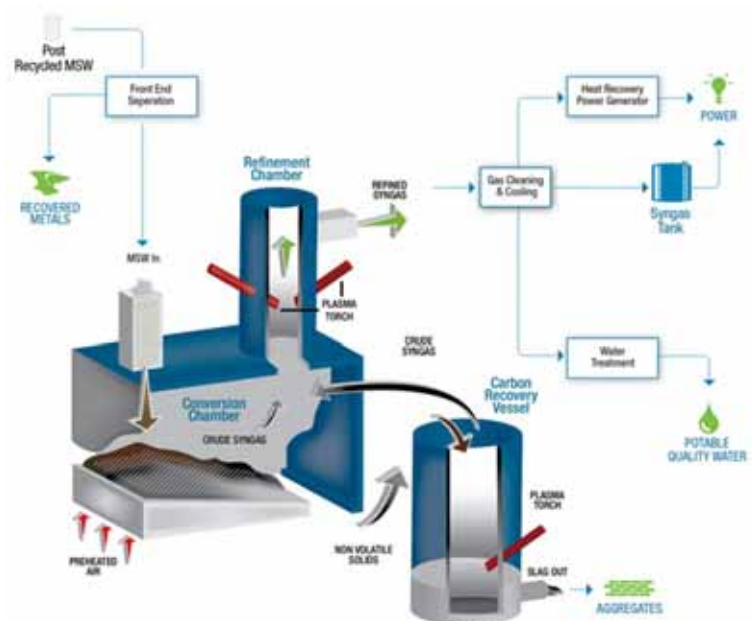
### What is plasma arc gasification?

The waste conversion process begins with any materials with high reclamation value being removed from the waste stream and collected for recycling. Once these high value products are removed, the municipal solid waste (MSW) is shredded and any remaining materials are removed and sent for recycling. The MSW stream enters the conversion chamber where the waste is converted into a crude synthetic gas (syngas) using recycled heat. The crude syngas that is produced flows to the refinement chamber where plasma torches are used to refine the gas.

Now refined, the syngas is sent through a Gas Quality Control Suite to remove sulphur, remove acid gases and segregate heavy metals found in the waste stream. The result is a clean, energetic syngas created from the conversion of waste with no air emissions.

The syngas is used to fuel internal combustion engines that efficiently generate electricity. Waste heat recovered from the engines is combined with waste heat recovered from cooling the syngas in a Heat Recovery Steam Generation (HRSG) unit to produce steam. The steam can either be used to generate additional electricity using a turbine (combined cycle generation), or it can be used for industrial processes or district heating (cogeneration).

The solid residue from the conversion chamber is sent to a separate high temperature Carbon Recovery Vessel (CRV) equipped with a plasma torch where the solids are melted. Plasma heat is used to stabilize the solids and convert any remaining volatile compounds and fixed carbon into crude syngas. This additional crude



Plasma gasification process

syngas is fed back into the conversion chamber. Any remaining solids are then melted into a liquid slag and cooled into small slag pellets. The slag pellets are an inert vitrified residue sold as construction aggregate. Leachability tests have been conducted on slag emerging from the process and have confirmed that the slag does not leach and is non-toxic.

The entire process is continuously monitored by a proprietary control system that ensures sufficient syngas stability to fuel internal combustion engines regardless of the variations in the energy content of the MSW.

Source: Plasco Energy Group

### Will these technologies displace recycling efforts?

No. The material that goes through the waste conversion process is what is left over after all materials with high reclamation value are removed from the waste stream.

### What if no project is selected?

The Authority was formed to manage the waste from the Salinas Valley residents and businesses. The Johnson Canyon Landfill east of Gonzales would be expanded to accommodate the waste and the Authority would continue to explore alternatives to landfill disposal.

To view full list of Q & A please visit  
[www.svswa.org/conversion\\_technology.cfm](http://www.svswa.org/conversion_technology.cfm)

# Projects

The Authority is constantly involved in projects consisting of improvements to the Authority facilities that address future landfill space, environmental protection, and safety. Below is a list of some of the projects the Authority is working on.

## **Work Street Transfer Station**

The Authority is currently working with the City of Salinas on relocating the Sun Street Transfer Station to Work Street to allow the City to proceed with Development of the Alisal Marketplace.

## **Johnson Canyon & Crazy Horse Landfill Gas Power Project**

Agreements have been approved with Ameresco to install Landfill Gas Generation Power Plants. The Projects consist of extracting the methane gas that is naturally produced from a landfill and using it to produce energy. Combined energy production is estimated to be 4.3 Megawatts; enough electricity to power 4,500 households.

## **Sun Street Recycling Center**

The Authority continues to improve the services provided at the Sun Street Transfer Station. Currently the Authority accepts most of the items that can be recycled for free. Compost and wood chips are now available for purchase.

## **Authority Facts**

- The Authority's facilities processed more than 75,000 transactions throughout FY 2010-11.
- The average person in Monterey County produces 1,300 lbs. of trash a year. That's 3 lbs. of trash a day, most of which is plastic and paper.
- Residents and Businesses can bring many items free of charge for recycling to the Authority locations. Items such as TV's, computers, monitors, appliances, metal, and many other items are free. Contact us for more details.
- Customers can pickup free recycled paint on a first come basis from our Sun Street Household Hazardous Waste Facility.

Use your QR Reader on your mobile phone and learn more about the Authority





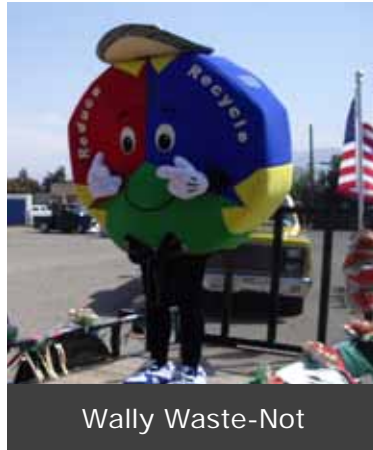
Susan, Mandy, Alan, Estela and Jenny



Ribbon Cutting Ceremony for Compost Retail Outlet



Transporting Metal for Recycling



Wally Waste-Not



Public Outreach



Ribbon Cutting Ceremony



Mandy explaining landfills



Estela at a recycling event

Promoting a future without landfills  
Protecting the Environment and Promoting the Economy





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