



# South Bayside System Authority

Providing wastewater services to residents and businesses in Redwood City, San Carlos, Belmont, and West Bay Sanitary District

**SBSA BULLETIN**

**SUMMER 2006**

## SBSA Commission

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## SBSA Staff

**Daniel T. Child**  
Manager  
**Robert Donaldson**  
Operations Manager  
**Kenneth Kaufman**  
Technical Services Manager  
**V. Gary Storms**  
Maintenance Manager  
**Linda Bruemmer**  
Support Services Manager

## Manager's Corner

**By Daniel Child, SBSA Manager**

The following represents a Q&A with SBSA Manager Dan Child, reflecting on his first 100 days since assuming the position in early April.



### What are your impressions of SBSA after your first 100 days?

They are very much the same as when I interviewed with the Commission for the position. I believed then and I have found that SBSA is a very well run organization with a strong staff from top to bottom. Bob, Ken, Gary and Linda and all their staff personnel are very experienced and know what they are doing (*referring to Operations Manager Bob Donaldson, Technical Services Manager Ken Kaufman, Maintenance Manager Gary Storms, and Support Services Manager Linda Bruemmer*). I am used to coming into organizations to "fix" things and this is a pleasant new experience where the organization is running very well and we are planning for the future.

### What is your view about the SBSA facilities?

The facilities here for the most part have held up well for their first 24 years and preventative maintenance has done a great job in getting us to where we are. That said, the facilities are aging and it is imperative that we review how to move forward in the future with the help of today's technology. This is why I recommended and the Commission agreed to retain a consultant to review our existing facilities and our existing Capital Improvements Budget and return in December with a recommended new 10-year Capital Improvement Program (CIP).

**(Continued on last page of the newsletter)**

## NEW RECYCLING FACILITY

**PROGRESSING:** Work is progressing on the new facility at SBSA to accommodate the Redwood City Recycled Water project.



## ‘Safe Medicine Disposal Days’ Helps Educate Public About Dangers of Flushing Medications Down the Toilet

Our last newsletter contained a story on SBSA’s participation with several other agencies in the Bay Area to educate the public not to flush unused or expired medications down the toilet or drain.

Our article triggered local newspaper coverage in the San Mateo County Times and about the growing problem, and urged residences and hospitals to dispose of unused medicines in compliance with their local solid waste and recycling regulations.

Also since the last newsletter, SBSA participated in a nine-county Bay Area effort called “Safe Medicine Disposal Days,” urging residents to take their unused medicines to various collection locations, which included Walgreen’s in Belmont and Menlo Park in the SBSA jurisdiction. The Safe Medicine Collection Event was a huge success; local agencies collected more than 3,000 pounds of unwanted/ expired pharmaceutical waste.

Medications, which are sometimes called pharmaceuticals in newspaper articles and research papers, include:

1. Prescription drugs such as hormones (birth control pills, estrogen replacement drugs, etc.), antidepressants, and antibiotics;
2. Over-the-counter medications such as pain relievers (aspirin, ibuprofen, etc.), cold/flu remedies, and antiseptics (germ killing liquids); and,
3. Veterinary medicines.

There are two ways that medications enter the sewer system and wind up at a wastewater treatment plant: (1) excretion by the human body in urine and feces and (2) disposal of unused or expired medications down the toilet or drain. Wastewater treatment plants are designed to remove conventional pollutants such as solids and biodegradable materials; they are not designed to remove man-made pollutants such as medications.

Therefore, one way to reduce the level of medications in surface water bodies is to reduce the amount of medications entering the wastewater treatment plant. This can be done by educating residents and health care professionals that unused or expired medications should not be disposed of down the toilet or drain.

The major concerns to date regarding the presence of medications in surface water bodies have been increased bacterial resistance to antibiotics and interference with growth and reproduction in aquatic



*Local Agencies  
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3,000 Pounds of  
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Pharmaceutical Waste*



Water Quality Specialist Sara Sipes run tests as part of her assignments. SBSA is part of a public relations campaign urging the public not to throw their prescriptions and over-the-counter medicines down their toilets. Fish exposed to traces of estrogen can develop reproductive problems is an example of the environmental concerns. This photo by San Mateo County Times Photographer Mathew Sumner accompanied an article in the newspaper in April about the public relations efforts



organisms such as fish and frogs. Aquatic organisms are sensitive to low levels of exposure and are particularly vulnerable when exposure occurs during developmentally sensitive times such as before birth and during juvenile stages of growth.

This is a complex issue and the level of risk to humans and the environment is still being determined. There are tens of thousands of medicinal products on the market with more being developed each year. It is not definitively known which particular medicinal compounds or mixtures of these are problems or what the long-term risks are. However, research is ongoing and, in the meantime, it is prudent to limit the disposal of waste medications to the sewer in order to minimize the potential negative and irreversible impacts on the environment.

*For more information, call SBSA Technical Services Supervisor Norm Domingo at (650) 595-8411, ext. 140, or email him at [ndomingo@sbsa.org](mailto:ndomingo@sbsa.org)*

## Update on SBSA Plant ‘Stage 2’ Capacity Expansion Program

The purpose of SBSA’s Stage 2 Capacity Expansion Program is to provide the necessary engineering planning, design and construction of facilities to incrementally increase the treatment plant capacity from 24 million gallons per day (MGD) to 29 MGD, as approved by the Commission in 1998.

SBSA, as of June 30, 2006, continues to receive payments from the member agencies sale of additional capacity within their respective service areas, now equal to a capacity demand of 26.2 MGD. Five projects have been identified to remove the treatment bottlenecks and increase the rated treatment capacity to accommodate the capacity sold. Two of those projects are complete and in operation.

Sufficient Stage 2 capacity has been sold to require the implementation of Project 3 at this time, which is construction of Enhanced Primary Treatment (EPT). Additionally, there are some other potential benefits to the implementation of EPT that could be realized in the near term, as follows:

- EPT will likely enhance the reliability of production of Title 22 recycled water for the Redwood City Recycled Water Project.
- EPT will likely reduce the level of sulfides in the digester gas and therefore reduce the maintenance effort required on the gas scrubbers.
- EPT will likely increase the digester gas production which can be utilized to generate power with SBSA’s cogeneration system.
- EPT will likely reduce odors at the SBSA plant site and decrease the quantities of calcium nitrate and hypochlorite presently introduced into the force main for odor reduction.

**The engineer’s estimate for the construction of the EPT facilities, which consist primarily of ferric chloride and polymer storage, pumping and conveyance facilities, is \$624,000. The Commission authorized the call for bids in June, which will be opened in August**

## Contracts to Upgrade Dual Media Filter Plant Control System Approved

The SBSA Commission recently took actions to upgrade the facility's Dual Media Filter (DMF) Plant control system, a project needed to replace an aging and outdated control system, to implement automatic and remote controls to reduce labor demand, and to increase operational reliability.

The project will include the installation of a Programmable Logic Controller (PLC) and telemetry system, programming for level control and automatic backwashing, installation of primary sensing devices, and establishing communication between the PLC and the SBSA data-highway and Supervisory Control and Data Acquisition (SCADA) systems.

*(Editor's Note: The dual media filters have two layers, sand and anthracite coal, through which the secondary effluent flows to remove most of the remaining suspended particles. It is among the final processes designed to remove more than 97 percent of all solids, organic material and pathogens from the wastewater received at SBSA.)*

## SBSA Employee News

On the occasion of its recent 15th Annual Employee Recognition Luncheon, the South Bayside System Authority and its Commission gratefully acknowledged the following employees for their achievements:

### Anniversaries:

- 25 Years: Robert Chapman
- 20 Years: Robert Donaldson, David Hall
- 15 Years: Fred Gerke, Ben Buenrostre
- 10 Years: Jeff Brubacker, Michael DeJesus

### New Employees:

- Bill Bowlen – temporary mechanic
- Thomas Chen – operator
- Dan Child – manager
- Lisa Flaherty – accounting tech
- De Guzman – water quality specialist
- Francisco Guzman – operator
- Roger Leong – operator
- Maurice Majora – lab assistant, part-time
- Mei Olson – water quality specialist
- Regina Prasad – lab assistant, part-time
- Veer Ram – operator
- Ed Schepis – temporary utility worker

**Wellness** (*number of years without missing a day of work because of illness*):

- 8 Years: Roger Roe

- 7 Years: Norman Domingo
- 4 Years: Ken Kaufman
- 3 Years: Gary Storms
- 2 Years: Michael Fazio
- 1 Year: Brent Brown, Linda Bruemmer, Carol Chiovare, Rosendo Gallegos, Michael Serrano, Rick Widger, Maria Gawat

### Recent Retirees:

- Jim Bewley 6/30/06)
- Lenny Bove (2/20/06)
- Craig Woodstock (5/1/06)

**Certification** (*these employees were recognized for achieving a level of certification over and above the requirements of their classification*):

- Cisco Guzman – Grade II Operator
- Peter Baiata – Grade II Operator
- Dave Hall – Underground Storage Tank System Operator
- Luke Castell – Underground Storage Tank System Operator
- Bob Huffstutler – Continuing Education for Mosquito Abatement

### Newly Certified:

- Ramon Castro – Grade I Operator
- Thomas Chen – Grade I Operator

## How SBSA Disposes of Biosolids Up for Review & Potential New RFP

**SBSA** has entered into an agreement with Allied Waste for biosolids hauling and disposal services as a stopgap before presenting a request for proposal for future hauling. Techniques utilized by SBSA in biosolids treatment and handling have saved more than \$1 million over the last several years.

SBSA's biosolids are processed through one of two dewatering processes. Approximately 60% of our annual production of 3,000 dry tons is processed in a high speed centrifuge which produces a "dewatered" product that is about 26% solids. These solids are conveyed to a trailer and disposed of as "waste" at a landfill. The remainder of the biosolids is diverted and "stacked" in the SBSA lagoon/drying beds during the winter season, typically from November to April. The lagoons are decanted in the spring, the biosolids mixed and dried to over 50% solids and then the hauling and disposal is put out for bid.

In the early fall months for three or four days about 500 truckloads of the 50% solid material are hauled out and usually utilized as alternative daily cover (ADC) at a landfill. The lagoons/drying beds are then prepared and ready for the next winter. The drying bed operation saves SBSA about \$80,000 per year. ADC qualifies as a diversion credit with the California Integrated Waste Management Board.

Since the late 1980's Browning-Ferris Industries, now Allied Waste, has hauled and disposed of the SBSA biosolids. SBSA's biosolids are currently being hauled to the Forward Landfill near Stockton. SBSA and BFI had planned to haul the biosolids to the closer Ox Mountain Landfill near Half Moon Bay, but unfortunately the SBSA biosolids did not meet the stricter disposal criteria in place at this new landfill. Once it became apparent that SBSA was not going to be able to utilize the Ox Mountain , BFI started hauling SBSA biosolids to a landfill farther away for the same cost of hauling to Ox Mountain, thus contributing to the savings in addition to the \$80,000 per year that the drying bed operation saves.

The cost of hauling biosolids has increased significantly since 1996 and disposal options are becoming difficult to identify. The future of biosolids hauling and disposal in the San Francisco Bay Area is a very dynamic and a "hot" topic in the industry. The Commission directed staff to review the market and solicit RFPs for assessing the best future long-term hauling and disposal options for SBSA. Allied will be hauling from the centrifuge until approximately November, at which time the biosolids will be pumped to the drying beds until the following spring.

In order to have the time necessary for market review and options analysis, the Commission approved a one-year \$346,000 agreement with Allied Waste for disposal of the solids from the centrifuge process for this current cycle. At the same time, staff will develop a scope and go through the RFP process so that the best alternative(s) for a new long term disposal plan can be completed and new agreements put in place.



The photo above is reflective of what happens to the biosolids after being hauled from SBSA. They can be used as alternative daily cover at landfill, or mixed with other compost for use in many organic operations. The logo to the left reflects the recycling effort that SBSA and similar plants undertake with their biosolids, converting them into useful recyclable commodities.

## Pipeline Repair Project Nearing Completion; Redwood City Constructs Bridge Across Levee

The \$3.6 million repair of the SBSA outfall line where it crosses under the Bay levee is completed. The last phase involved removal of the cofferdam and site restoration.

The City of Redwood City is in the planning stage for future levee improvement projects, which will ultimately construct a new levee that will cross over the outfall repair project.

To prevent settlement of the newly replaced effluent outfall at the new levee crossing, the City of Redwood City has agreed on a levee bridge scheme that will protect the pipe from possible differential settlement induced by the surcharge of a new levee.

The design of the levee bridge has been completed by Jacobs Associates. The City has agreed that the best time to perform this work is now while the outfall contractor is on site. This work will be performed as part of the Outfall Project but reimbursed by the City of Redwood City. The contractor's proposed cost for performing this work is \$76,820.

The repair project was borne out of a routine inspection of the levee where the outfall line passes under that discovered a water leak on the offshore side of the levee. Subsequent testing concluded that it was effluent from the treatment plant. This leak was not constant but was present when the tide was high and the effluent flow rate was high.

The overall outfall repair project replaced 260 feet of the existing reinforced concrete pipe with high density polyethylene pipe

Attempts were made to repair the leak using divers working from inside the pipe. The divers found that many of the pipe joints had opened up and possibly were leaking. Thus, the more extensive project was authorized by the Commission.



Photo: an early construction photo

### *Manager's Corner*

(Continued from Page 1)

#### **What specifically will the consultant review?**

They will look at the facilities within the plant treatment processes to evaluate needed equipment replacement and updates, as well as looking at what is required to meet our growth needs which are included in our currently approved Stage 2 expansion programs. We will incorporate the end product with similar work currently being performed by another consultant who is reviewing the five sewage pump stations and the associated conveyance systems that SBSA operates. This will enable us to have a complete view of our future needs to make appropriate plans to implement them.

#### **How does this review correlate with the existing CIP?**

SBSA's current CIP is comprised of projects that have been identified by staff and the Stage 2 Expansion work effort. Implementation schedules for each project are not necessarily correlated to process or regulatory needs and the associated budgets are roughly estimated costs. There are also necessary projects and system improvements that are not reflected in the CIP document. To adequately plan for the financial needs and implement capital projects, we truly need this new comprehensive CIP document.

#### **What is the overall project objective and outcome?**

The objective is to provide SBSA with a planning document that can be used for allocation of staffing and financial resources. The project's proposed 10-year CIP will include identified projects, project descriptions and basis for necessity, schedule for implementation, and cost estimates split into administrative, planning, design, construction, and construction management.