

ann ual report

# 1997 board of directors



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# Why we treat Why We A

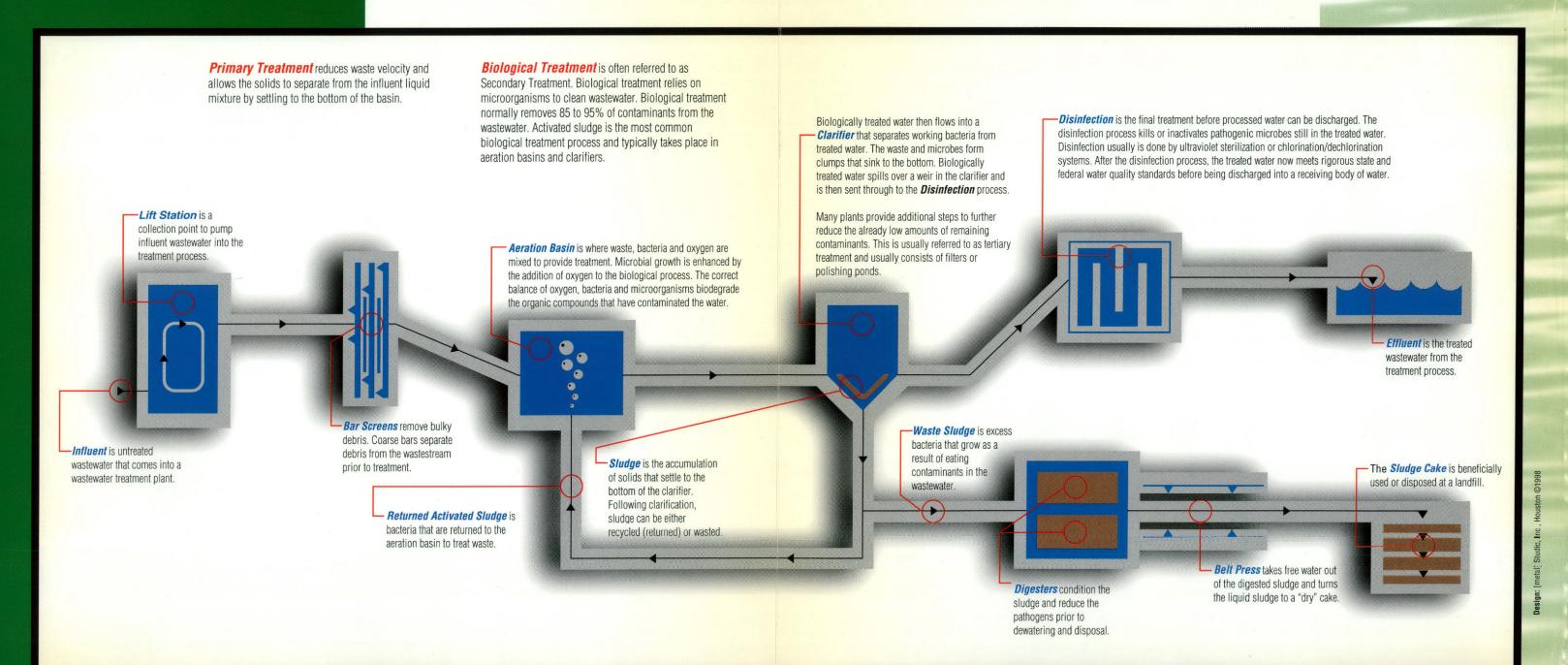
## WASTEWATER

Wastewater is water that has been used and as a result of that use, now contains or has the potential to contain contaminants. It includes domestic sewage, industrial wastes, and any other unwanted liquids. Wastewater must be treated properly before it can be returned to the environment.

Wastewater treatment plants protect our waters by removing solids, reducing organic matter and contaminants, restoring oxygen and killing pathogens. During the treatment process disease causing microbes are reduced along with contaminants.

There are various ways to treat wastewater. All GCA wastewater treatment facilities use biological treatment processes to treat wastewater.

During the biological treatment process, microbes use incoming organic material as food. Organics include things such as food scraps, grease, human waste, etc. Inorganic materials include sand, glass, metals, etc.



## Mission

### statement

"It is the mission of
Gulf Coast Waste Disposal
Authority to protect the
waters of the State of Texas
through regional waste
management practices
which are environmentally
sound, and economically
feasible."

### Government Publications 010601 Dallas Public Library

1997 Gulf Coast Waste Disposal Authority. Annual report /

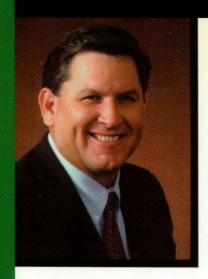
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What a great year for Gulf Coast Authority! I took a special look during 1997 at our employees; a group of people that I have always valued because they get the job done and done properly. It turns out that of our some 180 employees, 134 have been with GCA for more than two years as of the end of '97. Average service is more than 12 years. What this means to me is that GCA people are staying current with the demands of the workplace and demonstrating loyalty to the organization. My sincere thanks goes to this valuable group of folks.



J.M."Mark" Schultz

Chairman of the Board

### RE

We are very proud to have just held a reception in Odessa, Texas, in honor of that new plant's start-up. GCA is honored to be part of the Odessa community and to have 10 new employees at the Odessa Facility.

Back closer to home our Campbell Bayou Industrial Solid Waste Landfill in Texas City got the go ahead from participating industries to design and construct a new disposal cell. It's important to remember that the industries using Campbell Bayou established a perpetual care fund with GCA long before such a fund was required by federal regulations. Campbell Bayou will always be well cared for.

The very first regional industrial facility that GCA ever operated continues to be innovative today. A significant waste management service is being provided through Washburn Tunnel Facility's Vince Bayou operation. VB receives waste from companies that provide portable toilets for construction sites and public events, and septage from septic systems, as well as low volume flows trucked in from smaller industries. Volume continues to grow at Vince Bayou.

These are just a few of the h gh points that came to my mind as I reviewed 1997. My congratulations to the people who continue to "make it happen" at Gul<sup>2</sup> Coast Waste Disposal Authority.



## MARKS

Dick Brown General Manager

Opening a valve may seem a rather trivial activity for an agency that exists, at least in part, to provide regional treatment of industrial wastewater. But, when that valve let loose the very first stream to flow through a brand new treatment plant, and that treatment plant is located 500 miles from anything else we've ever done . . . that's special all right.

On November 1 1997, the much anticipated Odessa South Regional Wastewater Treatment Facility cracked the valves, cranked up the pumps and began operation. Flow is being received from Huntsman Corporation, the City of Odessa, and several other industries. The amount of wastewater treated every day averages three to four million gallons. Gulf Coast Authority is proud to be a part of the Odessa community and to bring its operating experience and expertise to this joint public-private partnership.

Another major project for 1997 involved our participation in the development of a teaching facility at Texas Parks & Wildlife Department's She don Lake State Park. The GCA staff was able to take a lead role in helping Robert Comstock, Park Superintendent, bring this long dreamed of project to fruition. We strongly support this effort to educate the public, especially school-age children, about nature and our interaction with the environment.

The year 1997 was also the first year the Authority became Regional Coordinator of the Annual River, Lakes, Bays 'N Bayous Trash Bash. This event has grown over the years with more children, adults, and industry representatives lending a hand, and sometimes a donation, each and every year. While thousands of pounds of trash are collected each year, the message which is sent about cleaning up our surroundings every day is really what is important.

Also, the Eayport Industrial Wastewater Treatment Facility, which completed the most extensive improvement project in its history in the first quarter of '97, now has a year of experience with the new, more efficient system. In answer to demands placed on the Facility by user industries, capacity was increased. And, the active treatment system was moved entirely aboveground.

I invite you to take a few minutes to review the highlights of 1997 at Gulf Coast Authority

## expansion & Contraction & Cont

New beginnings, new partnerships, new employees, and new challenges. All these elements came together when the Odessa South Regional Wastewater Treatment Facility turned the valve to receive its first wastewater flow on November 1, 1997.

Odessa South Regional Facility

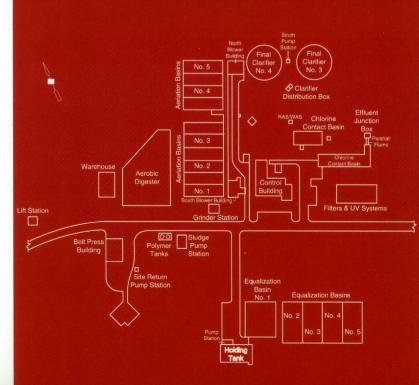
The Odessa South
Regional WWTF creates
new beginnings for the
industrial development of
the City of Odessa and its
industrial neighbors. The
facility receives between
three and four million
gallons of wastewater per
day and is capable of
handling up to seven
million gallons. The

industrial growth potential for the City of Odessa hinges upon how water, being the scarce commodity that it is in that area of the state, can be used by industry then treated by GCA and recycled for additional uses.

The partnership among the City of Odessa, Huntsman Corporation, and GCA has created additional employment opportunities for the citizens of the Odessa/Midland area. Mike George, CEO - Odessa Chamber of Commerce said, "GCA's presence in Odessa's industrial community has given us an important tool for attracting additional business to the city. The wastewater treatment facility is a tremendous asset for the community. Not only does it provide an attractive lure for industrial businesses, it has also created additional jobs."

GCA accepted new challenges when a commitment to the City of Odessa turned into the construction of the Odessa South Regional WWTF and reception of its first wastewater flow. Operational challenges are met head-on to fine tune GCA's biological treatment process that combines municipal and industrial wastewater. Incorporating wastewater treatment practices with environmental concerns are challenges GCA has accepted and continues to embrace through the operation of Odessa South Regional WWTF.





### **40-Acre Facility**



Environmentally sound waste management practices make Gulf Coast Waste Disposal Authority's 40-Acre Facility, in Texas City, an efficient and award winning wastewater treatment facility that also just happens to be used by many migratory and resident birds of the Galveston Bay area.

Within the last 10 years the 40-Acre Facility has received nine Gold (including 1997) and two Silver awards for operational excellence from the Association of Metropolitan Sewerage Agencies (AMSA). Over the cast year, the Facility has operated without any permit violations. Forty-Acre Facility continues to operate at a smooth and sound page.

The 40-Acre Facility is adjacent to wetlands that are heavily populated with ducks, herons, and roseate spoonbills (cover shot). It seems as if the birds know that the area is a safe haven even as the operating staff performs daily monitoring, maintenance and other chores. On any given day hundreds of birds feed and rest in and around the Facility.

### **Washburn Tunnel Facility**

# SERVICE



Washburn Tunnel's location on the Houston Ship Channel allows for easy barge access. GCA's Washburn Tunnel Facility (WTF) continues to serve the wastewater treatment needs of many industries located within the Houston Ship Channel area. Since its inception, WTF has treated over 360 billion gallons of wastewater. At present, WTF processes an average of 42 million gallons of wastewater per day.

During the course of a year, WTF treats enough wastewater to fill the Astrodome over 70 times.



Washburn Tunnel Facility receives waste streams by pipeline, truck (via Vince Bayou Receiving Station), and barge. Large industrial participants (companies that originally signed facility agreements to cover the cost of operation) such as Simpson Paper Company (which purchased the mill from Champion Paper Company), have relied upon WTF to treat their wastewater for many years. Smaller industrial and non-industrial contributors to the WTF are customers (companies not a party to the Facilities Agreement).

Companies with smaller flow volumes that use WTF for periodic waste disposal have the option of transporting waste material by truck or barge. As with any form of transportation, there are

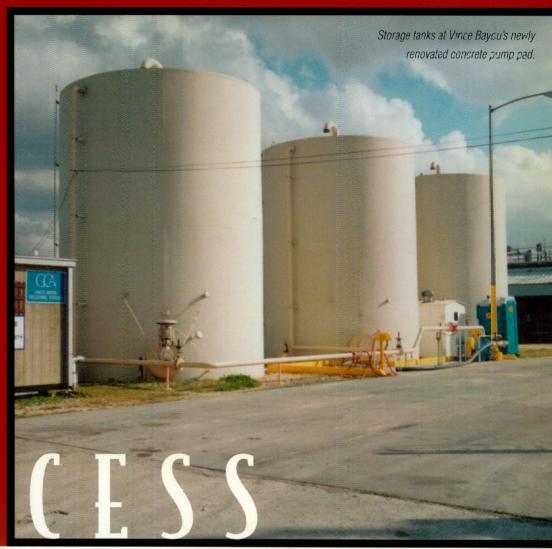
advantages and disadvantages, but transportation by barge creates a win-win situation for both the customer and WTF.

WTF has an existing dock that was once used to ship waste solids for disposal. (Processes have changed and now the material is trucked to a landfill.) Transporting wastewater by barge gives companies located along the Ship Channel the advantage of immediate access to WTF. An average barge can off-load between 400,000 to 800,000 gallons at each docking as opposed to only 7,000 gallons by truck. Barge shipments have given WTF additional control of the incoming organic loadings to the facility and that in turn helps to keep the microbiological treatment process balanced. All waste material coming off the barge is immediately monitored to ensure compliance and to eliminate the probability of any foreign substance coming into the treatment system that the system is not designed to treat.

In 1997, WTF accepted more than 29.3 million gallons of wastewater from 81 barges. Compared to WTF's daily average of 42 million gallons of wastewater per day (mgd), 80,000 gallons per day or 29.3 million gallons per year may seem small, but the service offered to the industrial Ship Channel community has far outweighed the total volume.

### **Vince Bayou Receiving Station**

Just outside
the entrance to
Washburn Tunnel
Facility (WTF) is the
Vince Bayou Receiving Station (VBRS).
VBRS operates under
the permit of WTF
and is considered an
extension of the
services WTF offers
to the business
community.



VBRS, in existence for more than 14 years, has supplied a necessary niche for Houston's business community. The City of Houston stopped accepting portable toilet waste in 1984. Small operators and independent contractors were left without a way to properly dispose of portable toilet waste. GCA stepped in and filled the void with the creation of VBRS.

When VBRS's largest customer began using its own treatment resource, the Facility had to make one of two hard choices: increase user fees for all customers or increase the number of customers. Fortunately for Houston's business community, VBRS increased its customer base by accepting non-hazardous incustrial wastewater.

PARTIE SE

VBRS's services have been made known to the business community by word-of-mouth only. Independent septic waste operators spread the word, and to this day the Operations Supervisor at WTF receives daily inquiries regarding service availability. VBRS started out as a portable toilet waste receiver but has grown to include non-hazardous industrial trucked-in wastewater, non-industrial wastewater, and just recently, septic tank waste. Today, VBRS accepts 30-60,000 gallons of waste material per day.

Washburn Tunnel Facility Manager Jack Wahlstrom says, "We're here to provide a cost-effective service and, most importantly, a proper way to dispose of the waste material."

As the customer base has grown, the Facility has made adjustments to accommodate the increased usage. VBRS built a pump pad that accepts industrial waste streams that do not contain solids. The material can be off-loaded directly into the storage tanks, bypassing the screening and grinding associated with the sump area. Large tanker trucks used to tie up the sump area for almost an hour creating a traffic flow problem as other trucks arrived. Now approximately 7,000 gallons of wastewater can be directly off-loaded from tankers within 20 minutes while freeing the sump area for smaller trucks.

### **Bayport Facility**



Authority has completed the first year of operation of a \$30 million-plus expansion and improvements program at its Bayport Industrial Wastewater Treatment Facility. The expansion program was the result of changing environmental regulations and a growing demand for industrial wastewater treatment capacity within Pasadena's Bayport Industrial Complex.

This most recent upgrade, which is part of an overall project totaling over \$40 million, began as part of a long-term plan in the mid 1980's. GCA identified a number of improvements that would have to be made by the year 2005.

The first two projects identified were an enclosed collection system and process improvements to the first part of the plant, including a new lift station, two first step biotreatment/equalization tanks (that took the place of an equalization pond), and electronic process monitoring and controls. The cost for these three items was estimated at \$13-14 million.

Because Bayport needed additional treatment capacity, and since regulations that would ultimately affect construction of the enclosed collection system were in the development stage, GCA decided to concentrate on process upgrades. These improvements, costing about \$6.5 million, began operating in January 1992 and increased both hydraulic and organic demand capacities.

Improvements completed in 1997 included: a \$7 million above-ground pipeline to replace an open concrete collection channel; \$20 million in process improvements including an additional first step aeration unit; second step aeration utilizing a jet aeration system similar to the first step system; a sixth clarifier; an air emissions control system; an upgraded lift station; conversion of an existing treatment unit to an aerobic digester; an enlarged chlorine contact chamber; a synthetically lined emergency spill basin; a water reuse system.

## SI6HT

The upgrade program increased Bayport's peak flow capacity from 25 million gallons per day (mgd) to 34 mgd. Bayport's capacity to treat organic contaminants was also increased by over 25%.

The improvements at Bayport have provided a number of benefits. In addition to increased flow and treatment capacity, the new first and second step treatment units allow Bayport to conserve energy because equipment can be tailored to changing conditions. When conditions warrant, blowers can be turned off, resulting in reduced electricity consumption. This flexibility did not exist with the surface aeration system because most of the aerators had to operate continuously to meet minimum process requirements.

Also, by converting B Plant to an aerobic digester, Bayport was able to reduce the total quantity of sludge that required dewatering.

Currently under construction and scheduled for completion in 1998 are final discharge improvements to increase Bayport's discharge capacity from 18 mgd to 30 mgd. This project is estimated to cost \$2.7 million.

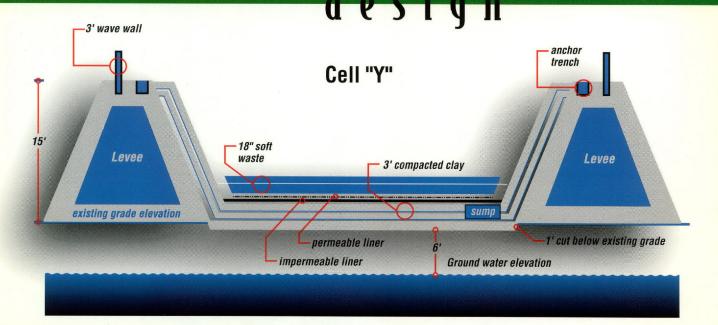
Overall, during 1997 the efficiency level of Bayport's industrial wastewater operation has increased as a result of its construction changes and modifications of previous years. Nineteen ninety seven was a very good year at GCA's Bayport Industrial Wastewater Treatment Facility.

### **Campbell Bayou Facility**



Although GCA is most widely known for its wastewater treatment plants, the Authority also operates an industrial solid waste landfill in Texas City — Campbell Bayou Facility. A major step was taken by CBF in 1997. CBF was authorized by two of its participants to proceed with the design and construction of a \$2.2 million Class 1 non-hazardous disposal cell, designated as "Y" Cell.

## INNOVATIVE



The construction of Y Cell involves an expensive and intricate procedure that must comply with exact specifications while constantly being monitored by GCA and the quality control contractor. Y Cell will be constructed approximately six feet above ground water level.

Y Cell goes much further than just being built above the groundwater table. An elaborate cell structure, including three feet of compacted clay, an impermeable liner and leachate collection system ensure that what goes in Y Cell stays there or is collected for treatment.

Y Cell will be three times larger than the cell presently in use at CBF. The new cell will have an estimated longevity of at least 10 years.

Y Cell will provide for the disposal of non-hazardous industrial solid waste materials from two primary industrial participants: Union Carbide Chemicals & Plastics Company, Inc. and Sterling Chemicals, Inc. Any additional participants under contract with GCA interested in disposal of solid waste materials would be charged an allocated cost for construction and use of the new cell.

Facility Manager Ricky Clifton said, "This project has been under discussion for a long time. I really want to express my appreciation to our participating industries for their confidence in this operation by coming together to fund an additional cell. Y Cell extends the operating life of Campbell Bayou, allowing us to continue serving the solid waste management needs of our industrial partners."

### **General Operations**

General Operations is a broad-based division encompassing municipal operations, human resources and general administration. The operational responsibilities of the group range from Blackhawk Regional Wastewater Treatment Facility to dredging of solids from treatment lagoons to managing benefits administration for all employees.

## DIVERSITY

### Areas included in General Operations

### **Municipal Operations**

Blackhawk Regional Wastewater Treatment Facility Alief Regional Wastewater Treatment Facility Candlelight Hills WWTP Cedar Bayou WWTP

### **Equipment Services Operations**

Mobile Sludge Dewatering Unit (belt press)
Solids Dredging Unit
Dewatered solids hauling and disposal management

### **Human Resources/Administration**

Human Resources Department
Process Review Committee (Appointed by the General
Manager to serve as an advisory group)

The newest component in the division is a dredge that replaced a machine which had been operating for more than 15 years. Currently the dredge is removing solids from ponds at the Bayport Industrial Wastewater Treatment Facility.

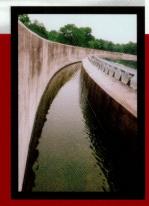
Work began in 1997 to plan for the eventual decommissioning of the Alief Facility. While the GCA staff will be sorry to see Alief shut down, the move is in keeping with the Authority's overall commitment to regional treatment. Alief at one time served five separate districts. The City of Houston has now annexed this area. Houston has decided to build a lift station to take the Alief flow to the even larger Upper Bray's Plant for treatment. The City, GCA and the engineering consultant are working to achieve a proper clean up of the plant site per EPA and TNRCC guidelines. Bypass of the Alief Facility is scheduled for late 1998.

Beginning in 1997 (with completion in 1998), the Human Resources Department began the start-up of a new HR computer program. The new system came on-line with few problems thanks to the cooperation of Management Information Systems, the Finance Department and numerous personnel at field locations.

General Operations continues to work closely with Special Projects to provide information and in-kind services to the Galveston Bay Estuary Program, Houston-Galveston Area Council, and other programs.



Operators make adjustments atop the headworks. Foreground, surface aerators operate in the initial treatment basin.



Treated wastewater flows over the weirs from the clarifier at the Blackhawk Facility. From this step the water moves to sand and coal filters for further removal of solids.



Individual chambers, visible in the partially pumped-down filter bed, are automatically backflushed to maintain efficiency of flow.



Ultraviolet lights provide the disinfection at the Blackhawk Facility just prior to discharge of treated water to Clear Creek.

### **Central Lab**

GCA's Central Lab opened in 1991 as a service facility for GCA and for other users who have a need for the unique services provided by the lab. It was organized and equipped by GCA in response to regulations that continually increase demand for consistent analytical services. As analytical testing becomes more sophisticated, Central Lab responds. The chief goals of Central Lab are quality of data, lower detection limits, and strict adherence to methodology.

# Central Lab employees ring and entering data for

testing and entering data for LIMS processing.



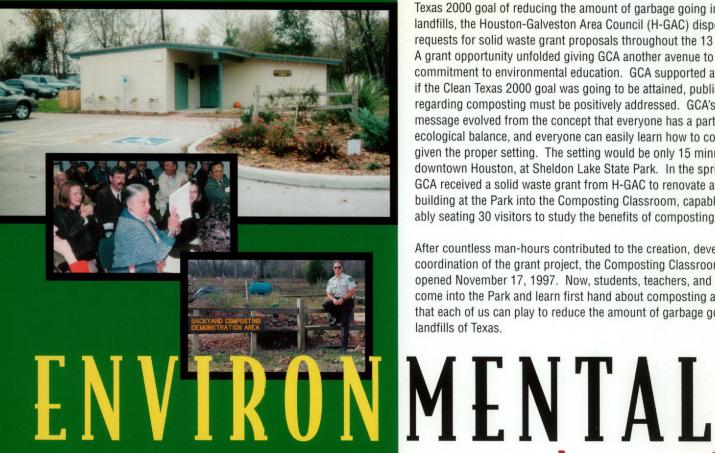
Central Lab continually strives to be a responsive analytical resource for GCA and to keep pace with analytical demands of the environmenta workplace. The Lab took a major step with the installation and programmed application of the Laboratory Information Management System (LIMS). All GCA facilities are on-line with the latest computerized technology that allows for immediate transfer of lab data. Once the sample has been analyzed, technicians enter sample data into laptop computers. The data then undergoes several layers of validation to become final. The final val dated data is electronically transmitted via GCA's computer network to each facility, where GCA facilities can instantaneously retrieve data in various formats for billing, compliance, and operational purposes. LIMS has effectively and efficiently reduced the possibility of errors by eliminating the old process of mu tiple data entry that began at Central Lab and continued at each facility.

"Central Lab is here to service GCA's analytical needs," according to Central Lab Manager Mary Junek. "LIMS is a dynamic tool that equips GCA facilities now and in the future. When you're talking about environmental testing, dynamic is the key word."

Timely reporting and precision is of the utmost importance to ensure proper compliance. Central Laboratory's precedent setting LIMS further enhances operational capabilities at every GCA facility.

### **Special Projects**

GCA completed a major environmental education effort in 1997 with the construction and opening of the Composting Classroom at Sheldon Lake State Park's Environmental **Education Center.** 





Sheldon Lake State Park was the ideal location to start a composting initiative. Park Superintendent Robert Comstock had visions of turning the area (a deserted fish hatchery) into an outdoor classroom, but had limited financial resources to work with. GCA began its environmental education quest at Sheldon by sponsoring a Backyard Composting Demonstration Area.

To further the Texas Natural Resource Conservation Commission's Clean Texas 2000 goal of reducing the amount of garbage going into Texas landfills, the Houston-Galveston Area Council (H-GAC) dispersed requests for solid waste grant proposals throughout the 13 county area. A grant opportunity unfolded giving GCA another avenue to further its commitment to environmental education. GCA supported a position that if the Clean Texas 2000 goal was going to be attained, public perception regarding composting must be positively addressed. GCA's educational message evolved from the concept that everyone has a part to play in our ecological balance, and everyone can easily learn how to compost if given the proper setting. The setting would be only 15 minutes from downtown Houston, at Sheldon Lake State Park. In the spring of 1997. GCA received a solid waste grant from H-GAC to renovate an existing building at the Park into the Composting Classroom, capable of comfortably seating 30 visitors to study the benefits of composting.

After countless man-hours contributed to the creation, development, and coordination of the grant project, the Composting Classroom officially opened November 17, 1997. Now, students, teachers, and the public can come into the Park and learn first hand about composting and the part that each of us can play to reduce the amount of garbage going into the landfills of Texas.

## educatio

GCA met another environmental challenge by accepting the role as regional coordinator for the 1997 River, Lakes, Bays, 'n Bayous Trash Bash. Although the Authority has participated in the event in years past, it was the first time the Authority took a lead role by coordinating the largest prevention and clean up effort in the state. April 12, 1997 will long be remembered by over 3,000 volunteers, braving abnormal weather conditions (temperatures in the lower 30's with wind gusts in excess of 15-20 mph) at 10 different sites, as the day that they took charge of cleaning and preserving the watersheds flowing into Galveston Bay. Sponsors and volunteers formed clean-up crews that scoured the waterways from the northern-most point of Lake Conroe to its southern watershed neighbor, the Texas City Dike, .... picking up, bagging, and hauling off tons of trash within a two-hour period.

Lori Roussel, Assistant to the General Manager said, "Its one thing to get adults involved in various clean-up and recycling efforts, but we made a concerted effort to target and reach out to children, our children, the same children who will be faced with future challenges of living with ecosystems that are affected by today's lifestyles."

SS	

### Unrestricted:

Cash and cash equivalents\$25,627,663Marketable securities616,515Receivables5,982,755Prepaid costs294,973Plant and equipment, net of accumulated depreciation110,971,910Unamortized bond issuance cost909,670Restricted:Bayport Reserve Fund3,444,154

### Total assets \$147,847,640

### Liabilities:

Accounts payable and accrued liabilities \$5,146,752
Deferred revenue 2,192,668
Working capital advances 1,174,596
Revenue bonds payable, net of unamortized discount 38,343,936
Total liabilities 46,857,952

### **Fund Equity:**

Reserved 3,444,154
Unrestricted 97,545,534
Total fund equity 100,989,688

### Total liabilities and fund equity \$147,847,640

### **Additional Information**

More detailed combined, combining, and individual fund financial statements and notes are presented in GCA's separately issued Comprehensive Annual Financial Report. GCA also issues General Purpose Financial Statements which present combined financial statements and notes.

### **Program Revenue**

				mioriana rooo	Other Revenue	Revenue (Cost)	
	Program Activities: General administration Wastewater treatment	\$4,039,965 30,634,212	\$1,352,263 32,527,134	\$2,000,365 46,782	\$711,730 1,294,134	\$24,393 3,233,838	
	Solid waste disposal Laboratory Equipment rental Project development	3,624,327 2,766,990 1,061,371	3,796,572 105,983 229,041	- 2,908,088 966,028 -	41,601 23,721 55,246 685	213,846 270,802 188,944 685	
	Industrial development  Total	2,429 \$42,129,294	173,750 \$38,184,743	\$5.921.263	25,270 \$2,152,387	196,591 \$4,129,099	
Nonprogram Revenue (Expenses): Contributions from participants in aid of construction Interest earned on contributions in aid of construction Internal service costs in excess of earnings						4,811,712 15,655 147,782	
	Excess of Revenue Over Expense				9,104,248		
Fund Equities at Beginning of Year						91,885,440	

### **Principles of Consolidation**

Fund Equities at End of Year

Fiduciary funds and capital projects funds for facilities whose ownership is to be transferred to industries upon completion have been excluded from these financial statements. The component unit, GCIDA has been included. Interfund receivables, payables and transfers have been eliminated from the financial statements. Interfund revenues and expenses have not been eliminated.

### **Basis of Accounting**

Interfund Fees

The basis of accounting for these consolidated financial statements differs from traditional fund accounting as follows: (1) the statements are prepared using a full accrual basis, except that depreciation of governmental fund capital assets is not included as an expense and (2) capital and debt principal expenditures and debt proceeds have been eliminated.

\$100,989,688





**Gulf Coast** 

**Waste Disposal Authority** 

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