

# City of Gainesville Public Utilities Department



## FY 2011 Annual Report



## **About the Cover:**

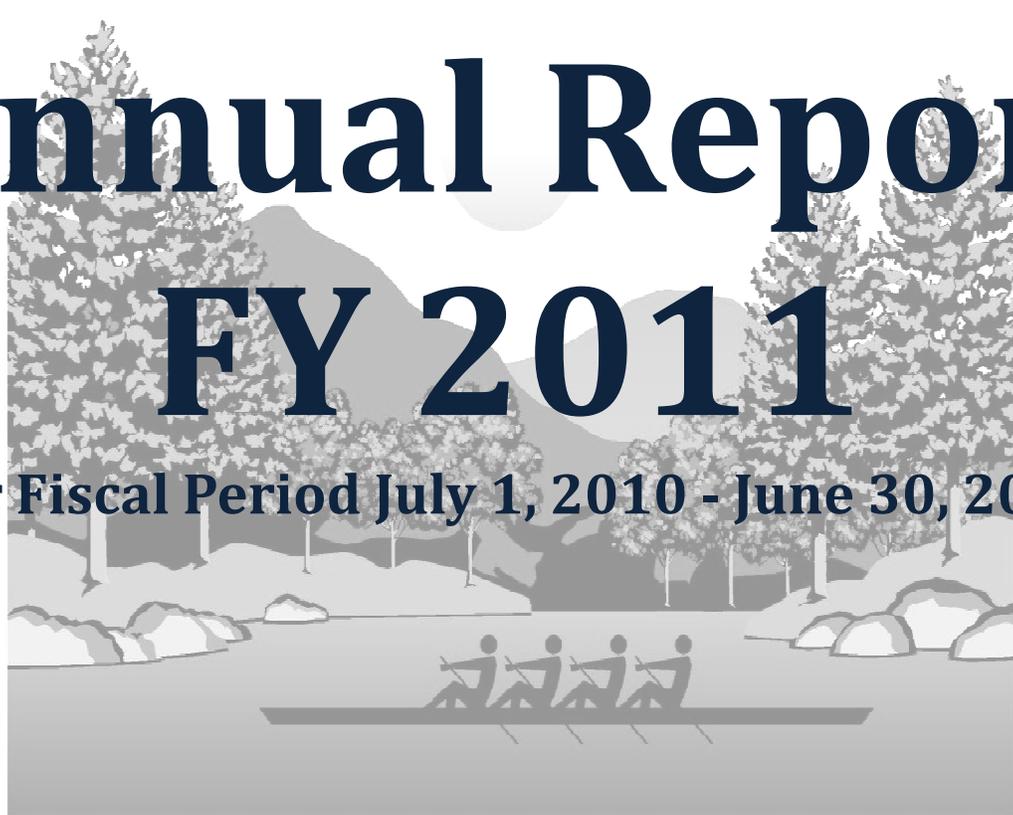
The photograph depicts one of the City of Gainesville's first fire hydrants.

Photograph provided by: **Dale Echols Photography**

Gainesville, Georgia  
Since 1821

# Annual Report FY 2011

For Fiscal Period July 1, 2010 - June 30, 2011



**PUBLIC UTILITIES**

# FY11 Annual Report

## Table of Contents

Letter from the Assistant Director

|  |    |
|--|----|
| Introduction to the Utility.....             | 1  |
| Organizational Chart.....                    | 3  |
| FY11 Highlights.....                         | 4  |
| Finance and Administration.....              | 10 |
| Water and Wastewater Treatment Services..... | 18 |
| Environmental Compliance and Permitting..... | 29 |
| Engineering and Construction Services.....   | 36 |
| Distribution and Collection.....             | 43 |



**CITY OF GAINESVILLE**  
•  
**PUBLIC UTILITIES  
DEPARTMENT**

757 Queen City Parkway, SW  
Gainesville, Georgia 30501-4358

Telephone: 770.538.2400

Fax: 770.535.5634

Web Site: [www.gainesville.org](http://www.gainesville.org)



To our customers:

With our 2011 fiscal year behind us, there are very few signs that the economy is bouncing back as quickly as we all had hoped. We do not, however, concentrate on the past, but we look forward to each and every day and the changes and challenges each will bring.

During this fiscal year, our utility staff continued to:

- look for ways to improve service to you, the customer
- educate the community about how to conserve water
- develop and further preventative maintenance programs, allowing us to respond quicker and more effectively as the need arises
- tirelessly work to improve the quality of water in our streams and rivers
- design and manage construction projects with in-house staff that are required to provide quality service to existing customers and make service available to new customers
- provide ample quantities of safe, aesthetically pleasing water and distribute it through over 1,300 miles of water mains at adequate pressures to more than 180,000 individuals and families who work, live, and play in Gainesville and Hall County
- collect and treat wastewater generated in our service area and return it once again to Lake Lanier
- provide and improve customer service in new and innovative ways
- work closely with our businesses, community, and state leaders on water issues to ensure that we have the resource available in the quantities needed for our children and their children

We are thankful for the dedication of each and every employee who takes so much care with this finite, natural resource required to sustain life; a resource we often take for granted.

As the time of my departure as a City of Gainesville employee draws near and I reflect on a career that seems to only have started a few days ago, I remember the words of Gurley Satterfield, our director from the 70 & 80's. He instructed me and passed on seemingly endless information, which has been invaluable to me through the years. One such statement concerning change from Gurley was "I have not seen anything compared to the change and growth you will during your career with the City". These words have rung true, year after year. Over the last 25 years, I have had the pleasure of working on a multitude of projects. I have seen the Utility's water and sewer systems grow and expand; and the water and wastewater treatment facilities expand and greatly improve the quality of the water both distributed to our customers and returned to Lake Lanier. We had approximately 19,000 customers when I came to work for the City in 1986 and today we are approaching 50,000.



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The things I have come to value most are the friendships I have made with co-workers and the interaction and dealings with you, our customers, throughout the years.

I want to thank Gainesville City Council and City Management for the opportunities and support they have given the utility and myself personally through the years. I'd also like to thank Gainesville Public Utilities' Department Director, Kelly Randall, for all of his support and guidance, and for allowing me the opportunity to address and thank you, our customers, for the many blessings I have received while working for you.

It has truly been a pleasure to serve you!

Sincerely,

Tim Collins  
Assistant Public Utilities Director

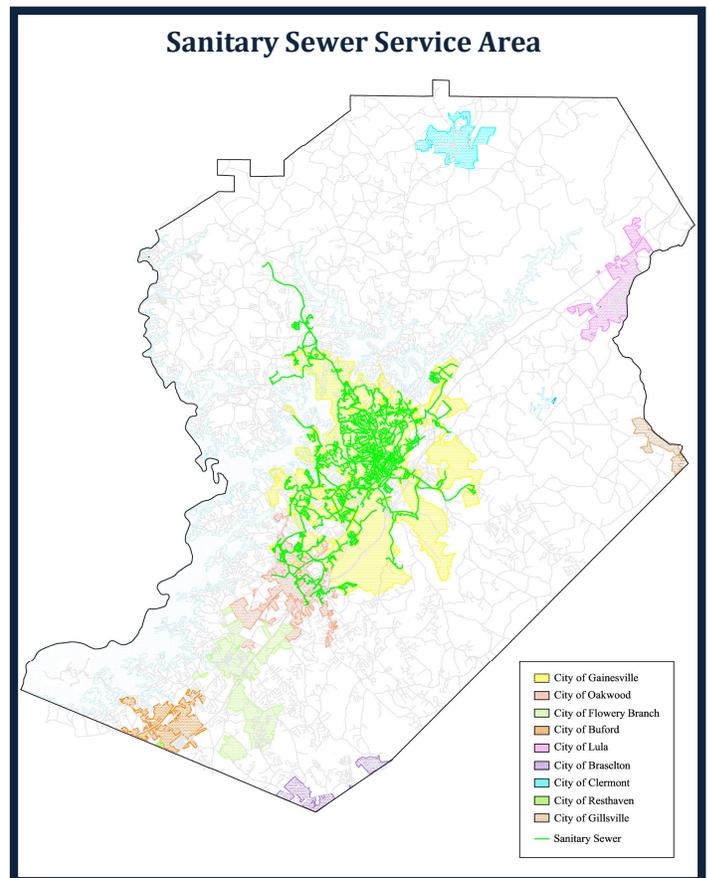
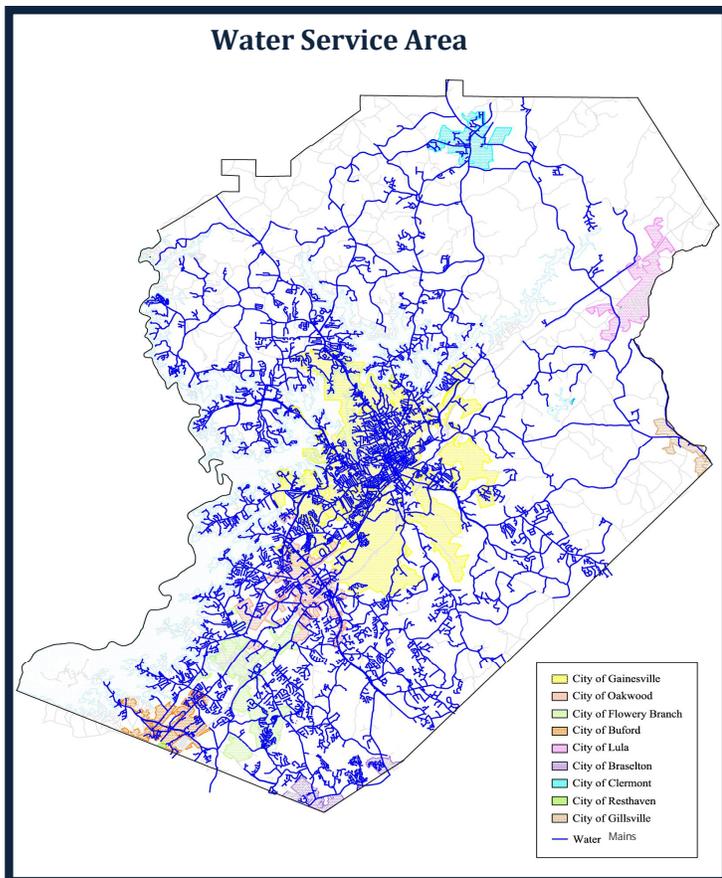
## **INTRODUCTION**

The City of Gainesville’s water supply and sanitary sewer system began in the late 1800’s as a tax supported system, providing limited service to residents within the City limits. The system became self-supporting in the 1940s. As the population adjacent to the city increased, extensions were made to serve users outside the City limits.

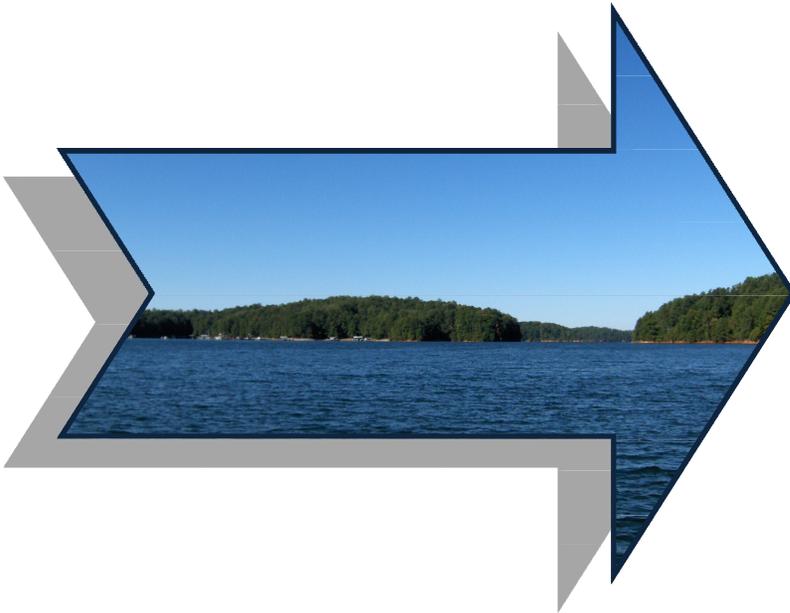
Today, the system supplies water to a geographic area of approximately 400 square miles, including Clermont, Buford, Oakwood, Braselton, Flowery Branch, Gillsville, and portions of the Lula area. The City maintains over **1,600** miles of underground water and sewer pipelines, which is nearly the equivalent to a continuous pipeline from **Gainesville, Georgia** to **Phoenix, Arizona**.

The source of supply of raw water for the System is Lake Lanier, an impoundment of the Chattahoochee River that is owned and operated by the U.S. Army Corps of Engineers. The Georgia Department of Natural Resources, Environmental Protection Division (“EPD”) also governs water withdrawal from Lake Lanier through its water withdrawal permitting process. **It is the City of Gainesville Public Utilities Department’s goal to provide the highest level of service to our customers and ensure that Gainesville and Hall County residents have a continuous supply of the best water in Georgia.**

We consistently strive to meet the demands of nearly **180,000** Hall County residents while looking to the future of an increasingly growing population and the preservation of our most precious resource – **water**.



## Lake Lanier Facts



- Constructed in the 1950s by the US Army Corps of Engineers
- **692** miles of shoreline
- **39,000** acres of water
- Its deepest point is **160** feet deep
- Record high lake level = **1077.2** msl (6 feet above full level) in **1964**
- Record low lake level = **1050.79** msl (20 feet below full level) in **2007**

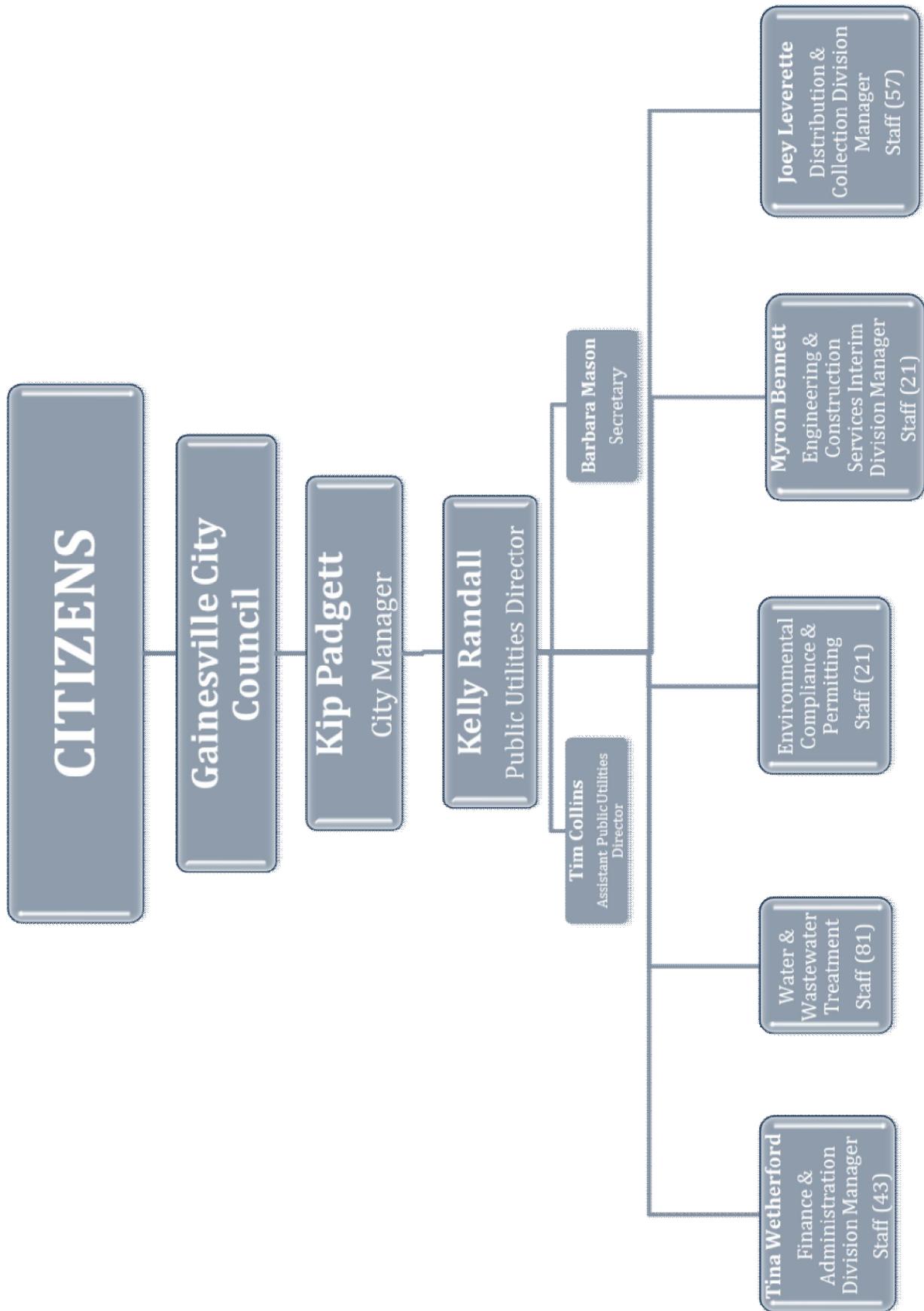
Source: [US Army Corps of Engineers](http://www.sam.usace.army.mil/lanier/) <http://www.sam.usace.army.mil/lanier/>

It takes a dedicated and determined group of men and women to accomplish the tremendous task of managing the community's water resources. The City of Gainesville's Public Utilities Department is comprised of several different divisions that work together to manage the water and sewer systems. Each division contributes to the comprehensive management of these systems.

### **The Divisions are:**

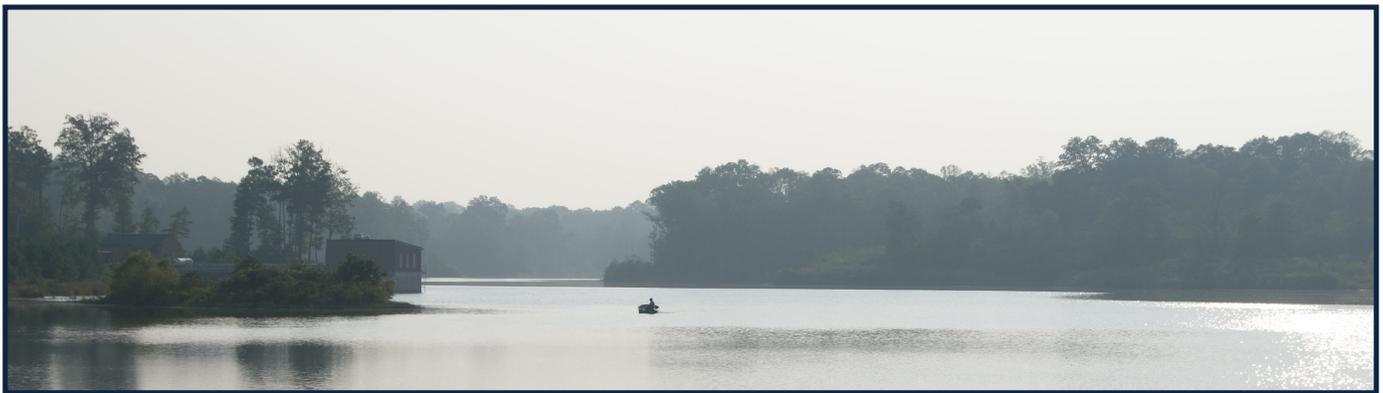
- **Finance & Administration**
- **Environmental Compliance & Permitting**
- **Water & Wastewater Treatment Services**
- **Engineering & Construction Services**
- **Distribution & Collection Services**

*The Divisions and their functions are further detailed in the Departmental section of this report.*



## **Fiscal Year 2011:** **(July 1, 2010 through June 30, 2011)**

This fiscal year has been one of significant events, progress, and achievement for the City of Gainesville's Public Utilities Department. Most notably, and of utmost importance to our community, was the resolution of the ongoing, tri-state "water wars". On June 28, 2011, a federal appeals panel overturned Judge Magnuson's 2009 ruling to greatly reduce water withdrawal from Lake Lanier, beginning July 2012. This was a crucial victory for our community and the state of Georgia and ensures adequate supply for Georgia's growing population and future generations.



### ***Tri State Water War Panel Discussion***

On March 22, 2011, the City of Gainesville Public Utilities staff and Brenau University's Sustainability Task Force held a panel discussion at the Brenau University Thurmond McRae Lecture Hall. This event focused on the decades' long Tri-State Water Wars and the latest news concerning Judge Magnuson's ruling. The event was open to the public and included discussions on water loss, revenue changes, endangered species, recreational impact, legal ramifications and possible solutions. Panelists included: Kelly Randall, City of Gainesville Public Utilities, Director; Ken Reardon, Hall County Public Works, Director; Frank Stephens, Gwinnett County Public Utilities, Program Manager; Pat Stevens, Atlanta Regional Commission, Chief, Environmental Planning; Laura Hartt, Upper Chattahoochee Riverkeeper, Water Policy Director; and Dr. Rudy Kiefer, Brenau University, Professor of Physical Science. Kit Dunlap, Greater Hall Chamber of Commerce, President and CEO and Metropolitan North Georgia Water Planning District, Chairman, was the moderator for the event. Each speaker was given a set time to explore their thoughts and the effects that their group faces concerning the federal court ruling. The evening was well attended. The general public, as well as local and state level organizations, were represented and heard from throughout the evening.

## ***FY 2011 at a Glance***

|  |         |
|--|---------|
| # of Authorized Positions in FY11                  | 226     |
| Miles of Water Mains                               | 1,343   |
| Miles of Sanitary Sewer                            | 280     |
| Meters Served                                      | 50,991  |
| # of Active Water Accounts                         | 46,632  |
| # of Active Sewer Accounts                         | 8,716   |
| # of Customers Served                              | 125,906 |
| New Water Connections (Water Meters Sold)          | 252     |
| New sewer connections (Sewer taps sold)            | 28      |
| Water Treatment Plants Maximum Daily Capacity      | 35 MGD  |
| Wastewater Treatment Plants Maximum Daily Capacity | 17 MGD  |

### ***www.gainesville.org***

In December 2010, the City of Gainesville launched its new website, [www.gainesville.org](http://www.gainesville.org). The Public Utilities' pages provide useful information and resources for citizens and guests. Applications and forms are available on the site, as well as conservation and outdoor watering resources. Access to several City of Gainesville publications is also available.

Utility payments may be made through the site, a quickly growing alternative for paying bills. In FY11, over **27,000** utility payments were made through the city's website.



## 2011 Citizens' Government Academy

The City of Gainesville held its 5th Annual Citizens' Government Academy in FY11. The 7 week program delved into the inner-workings of Gainesville's government. Different city departments were examined, including Public Utilities. In week 6, Public Utilities' Director, Kelly Randall, discussed the department's operations, achievements, and goals.



2011 Citizens' Government Academy Graduates

*"After attending the first session of the Citizens' Academy, I couldn't wait for the next one. I learned so much and appreciate all the extra work of the city's employees who provided this learning experience. It's a wonderful free service for residents of Gainesville and Hall County."*

**-Alma Bowen**

2011 Citizens' Government Academy  
Graduate and Gainesville Resident

## Best Operated Wastewater Collection System

The Wastewater Collection Division was awarded "**Best Operated Wastewater Collection System**" for 2010 by the Georgia Association of Water Professionals.



From Left: Terry Austin, Britt McFall, Jonathan Davis, William Beard, Joey Leverette, Kris Griffin

## Annual Stream Cleanup

Each year, The City of Gainesville hosts a stream cleanup, held at various locations throughout Hall County. Volunteers remove litter and other debris from our waterways. In FY11, nearly one ton of trash and debris was removed from Flat Creek and along Clark's Bridge by nearly 90 volunteers.

In FY11, nearly  
**1 TON**  
of trash and debris  
was removed from  
our waterways  
during the Annual  
Stream Cleanup.



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## Helping the Community: H2O (Help 2 Others)

The City of Gainesville Public Utilities Department launched its Round Up program, **Help 2 Others**, in July 2011. The city is partnering with the Salvation Army's Project SHARE to raise funds to assist City of Gainesville Public Utilities customers in need. If a customer chooses to participate, their utility bill will be rounded to the next whole dollar. These additional funds will be disbursed by the Salvation Army to those facing financial hardship. The assistance will be used to help with high water/sewer bills, costly plumbers' bills and the purchase of new water meters to replace wells that have gone dry, etc. All contributions are tax deductible.



## CITY VIEW CENTER – ELEVATED PEDESTRIAN WALKWAY



### Gainesville’s downtown landscape is evolving.

This project will connect the downtown area to the mid-town area with an elevated pedestrian walkway that will span over Jesse Jewell Parkway. The new structure will provide safe, convenient access from future development that will include a 250 room hotel and office buildings to the Georgia Mountains Center and future midtown greenway. The bridge is the first of many changes to come to the downtown area. This project is managed by the Utility and funded through the Gainesville Redevelopment Authority.

**Barclay Fouts**  
-Project Manager

“I have enjoyed working with all of the parties involved in this project from design to construction. The bridge has a very modern look and will complement this area of Gainesville for many years.”

# Leadership Academy

This year, GAWP (Georgia Association of Water Professionals) conducted a leadership program for its corporate and utility members. The curriculum included a history of water management in Georgia, leadership skills, aspects of professionalism, finance and management, and The EPD viewpoint. In attendance, representing the City of Gainesville's Public Utilities Department were Tina Wetherford, Finance and Administration Division Manager, and Danny Ingram, Wastewater Operations Superintendent.



2011 Leadership Academy Graduates

# **FINANCE AND ADMINISTRATION DIVISION**

The Finance & Administration Division is comprised of two sections: **Customer Account Services and Finance & Administration**. The Division consists of **43** authorized positions which may be broadly categorized as **customer service representatives, a customer advocate, a senior customer advocate, billing staff, meter services/sales staff, warehouse staff, administrative and support personnel, financial and divisional management, Assistant Director and the Director's office**.

The majority of the Division's staff, including the Director's office, is located in the Public Utilities Administration Building located at 757 Queen City Parkway. The Purchasing staff and Meter Services staff are located at the Bradford Street Warehouse Facility at 1006 South Bradford Street Extension.

## **CUSTOMER ACCOUNT SERVICES**

**MISSION STATEMENT:** *To provide our customers with professional, accurate and efficient services.*

### **SCOPE OF SERVICES**

The Customer Account Services (CAS) group is responsible for providing customer service to over 50,000 water and sewer customers. The group is comprised of **32** authorized positions. Some services provided include, but are not limited to, answering customer calls, processing service applications, posting utility payments, billing, meter reading, meter sales, submitting and completing service requests, preparing adjustments and maintaining the billing software database.

Customer service representatives are available Monday through Friday. Phone and drive-thru hours are from 7:00 AM to 6:00 PM and office hours are from 8:00 AM to 5:00 PM. Customers may also access account information and pay their utility bills 24 hours-per-day by logging onto the City of Gainesville's website, [www.gainesville.org](http://www.gainesville.org), or by calling **(770) 535-6878**.

### **FY11 Customer Account Services Statistical Indicators:**



- 71,272 customer calls handled
- 7,112 applications for new service processed
- 303,544 transactions posted
- 27,900 payments made through our website
- 527,145 meters read
- 26,595 service orders completed



A field service representative services a water meter

# Improving Cost Efficiency

**We continuously review and evaluate our practices and policies to better serve our customers.**

In FY11, several new cost and time saving tools were implemented in an effort to keep rates and fees as low as possible for our customers. First, we began using Telecheck, a service that searches its database to determine if accepting a check is a possible risk. This allows all checks that are brought in-person by customers to be scanned through the Telecheck system. On average, this has resulted in an **87% decrease** in returned checks each month and has greatly reduced the utility's cost of recovering amounts owed.

Another process, Check 21, was also started this year. It allows customer service representatives to scan all business checks and send them electronically to the bank. This enables the processing of more checks in less time and provides a faster return on money. By June's end, **\$9,540,533.40** was deposited electronically, a **77% increase** from the previous fiscal year.

**Over 9 million dollars was deposited electronically in FY11.**



In an effort to reduce the number of past due accounts and unpaid balances, the city increased the amount required as a deposit when an account is opened or reconnected after being disconnected for non-payment. This deposit increase has reduced non-payment disconnections by **23%** over the last year. The number of accounts sent to collections has also decreased by **39%** and the dollar amount by nearly **30%**.

**In FY 11, the City of Gainesville lowered the account service fee for customers located outside of the city limits from \$7.66 to \$6.44 and eliminated the sewer rate differential so that all sewer customers (inside and outside city limits) now pay the same rate.**



Public Utilities' Customer Account Services employees: customer service and field service representatives

## Flex Net

FY11 marked a large increase in Flex Net meters. By fiscal year's end, 8,000 meters had been equipped with new Flex Net technology. Addition of these flex net "transmitters" enables the meters to be read remotely, by use of radio technology. The data (reads) are transmitted and received in our office through a database server. This allows staff to continuously view meter activity which helps monitor usage patterns, provides proactive leak detection and helps identify other problems that may arise.

Customers are notified immediately if a possible leak is suspected. This can significantly reduce costs to our customers and prevent unnecessary water loss. The automated reading system also greatly reduces fuel costs while allowing employees to devote their time to other duties and tasks.

### **Flex Net Technology: Saving Time and Money**

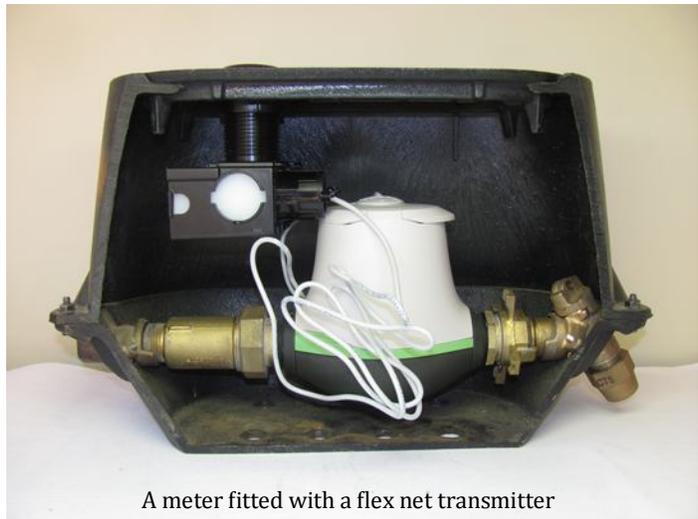
**Fuel Savings**

**Less Labor required**

**Reduction in work  
orders**

**Improved reading  
accuracy**

**Daily Leak Alerts**

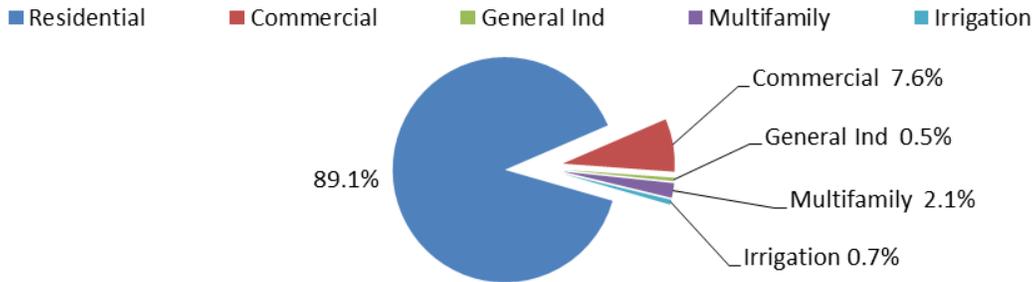


A meter fitted with a flex net transmitter

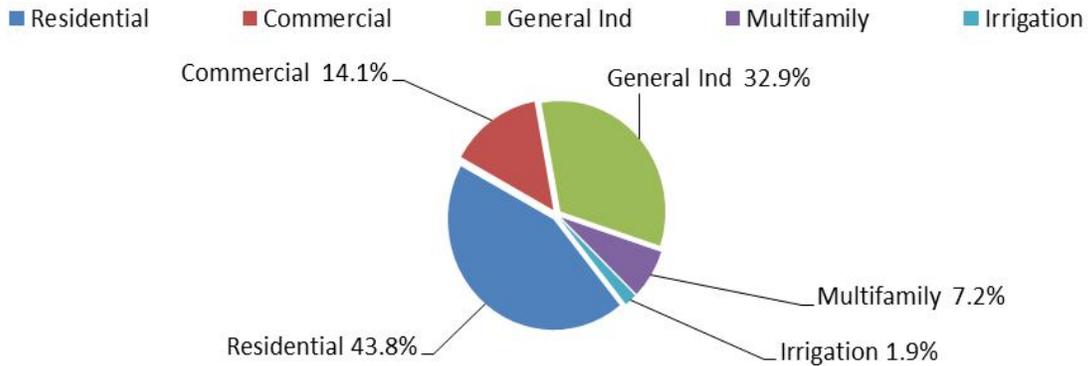
# Our Customers: Water

50.8% of our water revenue comes from our residential customers, who comprise 89.1% of our customer base. General Industry continues to comprise 27.2% of water revenue and 32.9% of water usage from a small customer percentage of 0.5%.

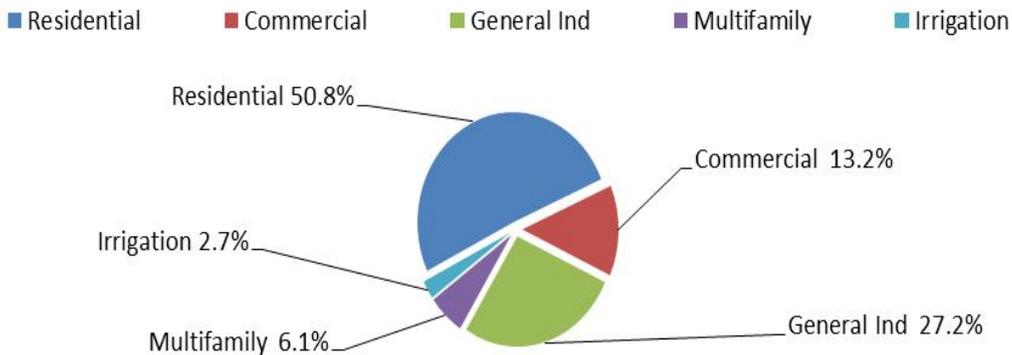
## Water Customers



## Water Use



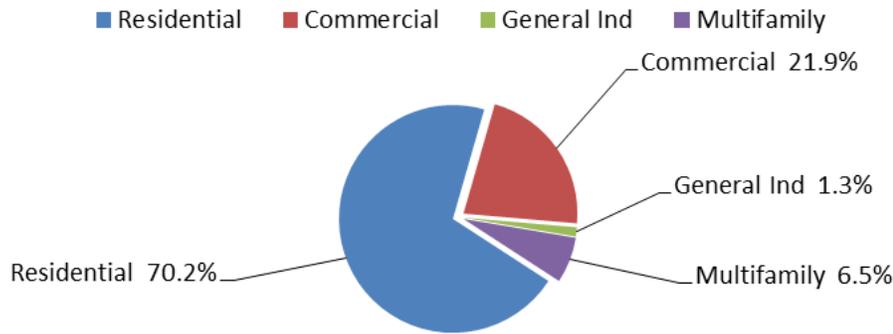
## Water Revenue



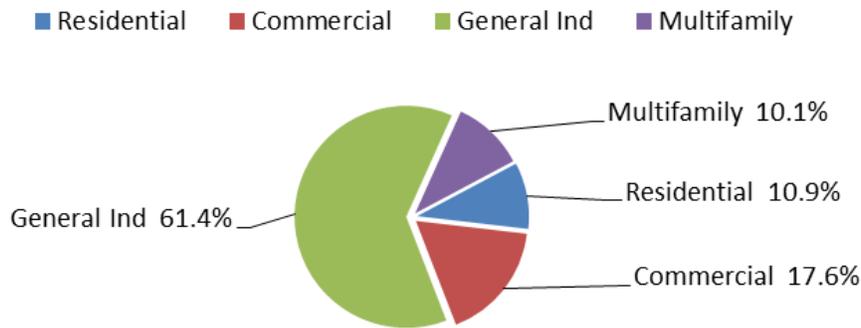
# Our Customers: Wastewater

General Industry continues to be the largest user of wastewater at **61.4%** of total wastewater usage and **62.6%** of total wastewater revenue. Commercial usage is the next highest with **17.6%** of usage and **17.3%** of wastewater revenue. **70.2%** of wastewater customers are residential, but their usage only accounts for **10.9%**. The revenue comparison is a slightly lower percentage at **9.6%** due to the fact that residential wastewater customers are billed at 85% of water readings for wastewater usage.

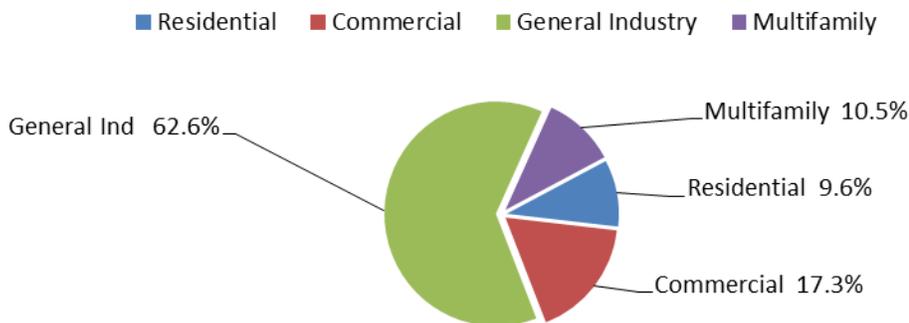
## Wastewater Customers



## Wastewater Use



## Wastewater Revenue



## **FINANCE & ADMINISTRATION**

**MISSION STATEMENT:** *To provide a stable financial position and administrative support for daily operations.*

### **SCOPE OF SERVICES**

The Finance and Administration Division has fourteen (**14**) authorized positions which include the Director, Assistant Director, Finance & Administration Division Manager, Accounts Payable, Customer Advocate, Inventory Control, Payroll, Purchasing and Warehouse personnel.

The group is responsible for financial planning for the Five-Year Capital Improvements Projects, preparation and management of the operating and capital equipment budgets, performing cost-of services analysis, evaluation of customer service “best practices,” payroll and personnel support, purchasing and inventory control, fleet and asset management, accounts payable, policy enforcement, utility debt collection, management of the 18,000 square foot administration building and the warehouse facility, and preparation of the annual report and other publications. This staff works closely with the Director in establishing long-term directions and goals for the Public Utilities Department, developing departmental policies and municipal codes, and providing essential support to all divisions.

- Accounts Payable staff processed **6,228** invoices and **324** requisitions in FY 11.
- Purchasing staff processed **299** requests for bids and proposals in FY 11.



Water meters located in the Public Utilities Warehouse

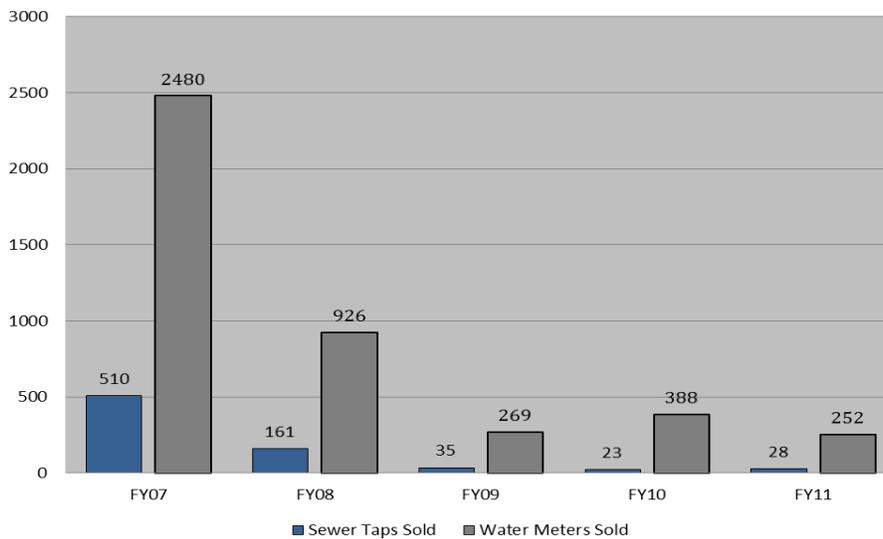
“As we continue to persevere through tough economic times, we are proud to say that we are continuing to maintain a healthy financial position. Through improved policies & procedures, we saw a 29.6% decrease in the amount of delinquent debt sent to collections for Fiscal Year 2011.”

**- Tina Wetherford**  
Finance & Administration Division Manager

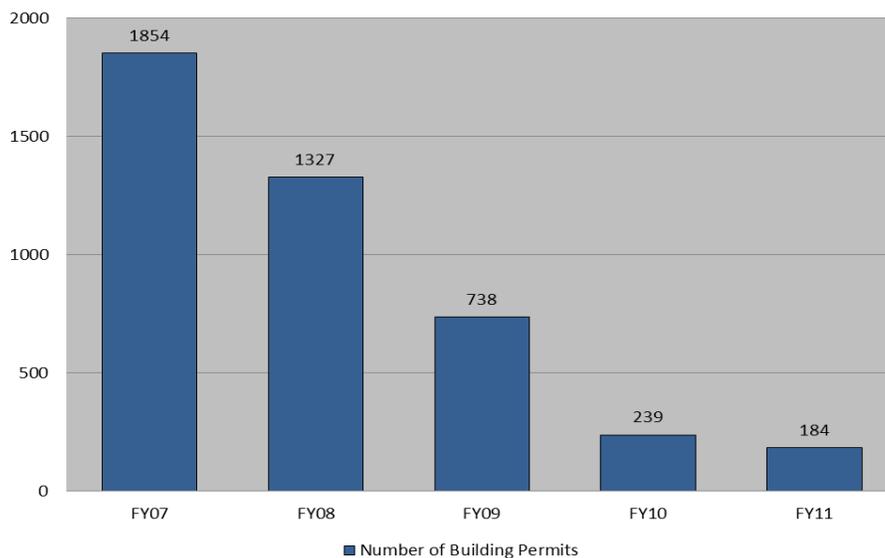
# FY 2011 Financial Position

The financial position of the Utility remained strong throughout FY 2011, despite the persistent economic downturn. Hall County's unemployment rate continues to hover near 9 percent. New construction in the area also remains scarce. Water meter and sewer tap sales continue to decline, as a result (as illustrated in the charts below). However, based on the preliminary unaudited financial statements, the Utility's revenues exceeded budget projections by approximately \$5 million in FY 2011. The increase is mostly attributed to an increase in water sales and annual rate increases for water and sewer rates. Total revenues have returned to those similar to revenues for Fiscal Year 2007, a positive sign for the Utility.

## New Water & Sewer Connections



## Hall County Building Permits



Source: [US Census Bureau](http://2010.census.gov) <http://2010.census.gov>

# FY 11 Financial Highlights

| <b>CITY OF GAINESVILLE</b>                               |                   |                   |                    |
|--|-------------------|-------------------|--------------------|
| <b>PUBLIC UTILITIES FUND</b>                             |                   |                   |                    |
| <b>SUMMARY FINANCIAL STATEMENT *</b>                     |                   |                   |                    |
| <b>For the twelve months ended June 30, 2011</b>         |                   |                   |                    |
| <b>% of Year Remaining = 0.00%</b>                       |                   |                   |                    |
|  | <b>Revised</b>    | <b>Jun-11</b>     | <b>Remaining</b>   |
|  | <b>Budget</b>     | <b>YTD Actual</b> | <b>Balance</b>     |
| <b>Revenues</b>  |                   |                   |                    |
| Intergovernmental  | -                 | -                 | -                  |
| Charges for services                                     | 51,393,529        | 56,171,974        | (4,778,445)        |
| Investment income  | 24,000            | 273,218           | (249,218)          |
| Contributions  | -                 | -                 | -                  |
| Miscellaneous  | 102,100           | 106,101           | (4,001)            |
| Other financing sources/transfers in                     | 3,000             | 18,165            | (15,165)           |
| Transfers from E&R (Connection Fees)                     | 1,128,230         | 885,331           | 242,899            |
| Intergovernmental  | 5,000             | 1,266,588         | (1,261,588)        |
| <b>Total Revenues</b>                                    | <b>52,655,859</b> | <b>58,721,377</b> | <b>(6,065,518)</b> |
| <b>Expenses</b>  |                   |                   |                    |
| Riverside Water Treatment Facility                       | 3,078,181         | 2,726,286         | 351,895            |
| Lakeside Water Treatment Facility                        | 1,847,190         | 1,713,528         | 133,662            |
| Water Distribution                                       | 3,760,759         | 2,975,867         | 784,892            |
| Flat Creek Water Reclamation Facility                    | 3,733,211         | 3,269,079         | 464,132            |
| Linwood Water Reclamation Facility                       | 2,341,439         | 2,209,782         | 131,657            |
| Maintenance Services                                     | 2,503,508         | 2,259,203         | 244,305            |
| Sanitary Sewer   | 1,937,375         | 1,685,657         | 251,718            |
| Environmental Compliance and Permitting                  | 1,928,377         | 1,710,840         | 217,537            |
| Engineering and Construction Services                    | 1,694,086         | 1,466,822         | 227,264            |
| Meter Services   | -                 | -                 | -                  |
| Customer Account Services                                | 2,711,229         | 2,419,124         | 292,105            |
| Finance and Administration                               | 1,738,243         | 1,565,663         | 172,580            |
| <b>Subtotal - Expenses</b>                               | <b>27,273,598</b> | <b>24,001,851</b> | <b>3,271,747</b>   |
| Bad Debt Expense   | -                 | (12,580)          | 12,580             |
| Amortization   | -                 | -                 | -                  |
| Debt service   | 21,722,258        | 8,594,848         | 13,127,410         |
| Other financing uses/transfers out                       | 3,918,753         | 16,742,449        | (12,823,696)       |
| <b>Total Expenses</b>                                    | <b>52,914,609</b> | <b>49,326,568</b> | <b>3,588,041</b>   |
| <b>Excess (Deficiency) Revenues over</b>                 |                   |                   |                    |
| <b>Expenses</b>  | <b>(258,750)</b>  | <b>9,394,809</b>  |                    |
| <b>Budgeted Fund Balance 6/30/10</b>                     | <b>258,750</b>    |                   |                    |
| <b>*These are preliminary unaudited year end numbers</b> |                   |                   |                    |

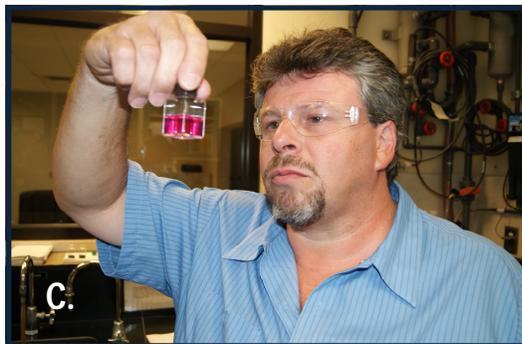
# WATER AND WASTEWATER TREATMENT SERVICES DIVISION

The Water and Wastewater Treatment Services Division is comprised of three (3) sectional groups, categorized as: **Water Treatment** (Riverside and Lakeside), **Water Reclamation** (Flat Creek and Linwood), and **Maintenance Services**.

The **Water Treatment** group is responsible for collecting raw water from Lake Lanier, the treatment of that water to national drinking water standards at the Riverside and Lakeside Water Treatment Plants (WTP), and the distribution of the finished treated water into the system's water storage facilities. The offices and staff for this group are located at the Riverside Water Treatment Facility at 2120 Riverside Drive and the Lakeside Water Treatment Facility located at 5460 Jim Crow Road.

The **Water Reclamation** group treats all of the collected wastewater to environmentally safe discharge standards in utilizing the treatment made available at the Flat Creek and Linwood Water Reclamation Facilities (WRF). The offices and staff of this group are located at the Flat Creek Water Reclamation Facility at 2640 Old Flowery Branch Road and the Linwood Water Reclamation Facility at 500 Linwood Drive.

The **Maintenance Services** group is responsible for maintaining all equipment located within the treatment plants, operation and maintenance of sewer pump stations and potable water booster pump stations while also providing grounds keeping to miscellaneous areas of the Public Utilities Department, along with sewer right-of-way maintenance and inspections. The staff and offices of this group are located at the Maintenance and Training Building within the Flat Creek facility at 2640 Old Flowery Branch Road.



- A. Belinda Folks conducts testing of the Riverside Water Treatment Plant's treatment process
- B. Lynn Griffin measures the oxygen levels in the treatment process at the Linwood Water Reclamation facility
- C. Troy Elrod examines a sample of drinking water for chlorine levels

# WATER TREATMENT

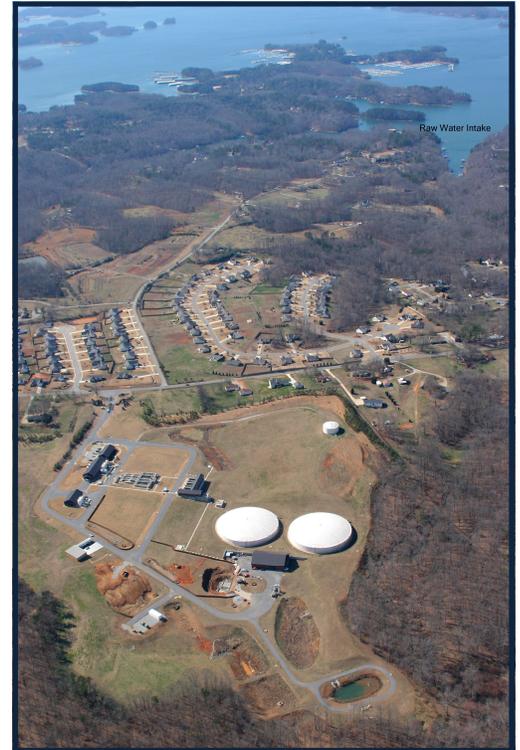
**MISSION STATEMENT:** *To provide the highest quality drinking water in the most resourceful and economical way.*

## SCOPE OF SERVICES

The **Water Treatment** group consists of a Superintendent, two (2) Plant Managers, and twenty-eight (28) other staff members. This group is primarily responsible for the daily operations of the Riverside and Lakeside Water Treatment Plants (WTP) and “finished” (i.e., treated) water storage facilities.

## FACILITIES

The Riverside WTP has the capacity to produce and is permitted to process 25 Million Gallons per Day (MGD). The Lakeside WTP provides another 10 MGD of potable water for the community. Water is pumped from Lake Lanier to both treatment facilities and treated to be safe for residential, commercial, and industrial use. A high quality, uninterrupted supply of potable water free of objectionable turbidity, color, taste, and odor is produced.



**Lakeside Water Treatment Plant**

Treated water is stored in three clear wells at the Riverside WTP with a total combined on-site storage capacity of 12 MG. At the Lakeside WTP, there are two 5 MG clear wells for a total combined on-site storage capacity of 10 MG.

In the distribution system, there is a 5 MG ground level storage reservoir (known as the High Street Tank). Six (6) elevated storage tanks provide additional storage capacity of 3.75 MG of finished water.

The City has a total combined system storage capacity of 30.75 MG. This is enough stored water to serve customers for approximately two days at current usage levels.



**Riverside Water Treatment Plant**

## Riverside and Lakeside Statistical Indicators

|                                    | FY08  | FY09  | FY10  | FY11  |
|------------------------------------|-------|-------|-------|-------|
| Filtering Capacity (MGD)           | 35    | 35    | 35    | 35    |
| Filtering Permitted Capacity (MGD) | 35    | 35    | 35    | 35    |
| PERMITTED - Raw Water Withdrawal   |       |       |       |       |
| - Maximum 24 Hour (MGD)            | 35    | 35    | 35    | 35    |
| - Monthly Avg. not to exceed (MGD) | 30    | 30    | 30    | 30    |
| ACTUAL - Raw Water Withdrawal      |       |       |       |       |
| -Maximum 24 Hour (MGD)/(Date)      |       |       |       |       |
| • Riverside                        | 18.8  | 13.92 | 19.2  | 17.24 |
| • Lakeside                         | 9.92  | 10.25 | 9.8   | 10.25 |
| - Monthly Avg. (MGD)               | 17.91 | 17    | 19.2  | 18.92 |
| TOTAL - Raw Water Withdrawal       | 6,536 | 6,222 | 7,002 | 6,906 |
| Pumped to System                   |       |       |       |       |
| - Max Day (MG) .....               | 27.31 | 21.98 | 23.3  | 23.49 |
| - Avg. Day (MG) .....              | 17.82 | 16.56 | 17.1  | 17.64 |
| - Total (MG) .....                 | 6,527 | 6,047 | 6,242 | 6,437 |
| Sludge Disposal (Tons)             | 946   | 782   | 844   | 801   |



Students are shown how solids are handled at the Lakeside Water Treatment Plant

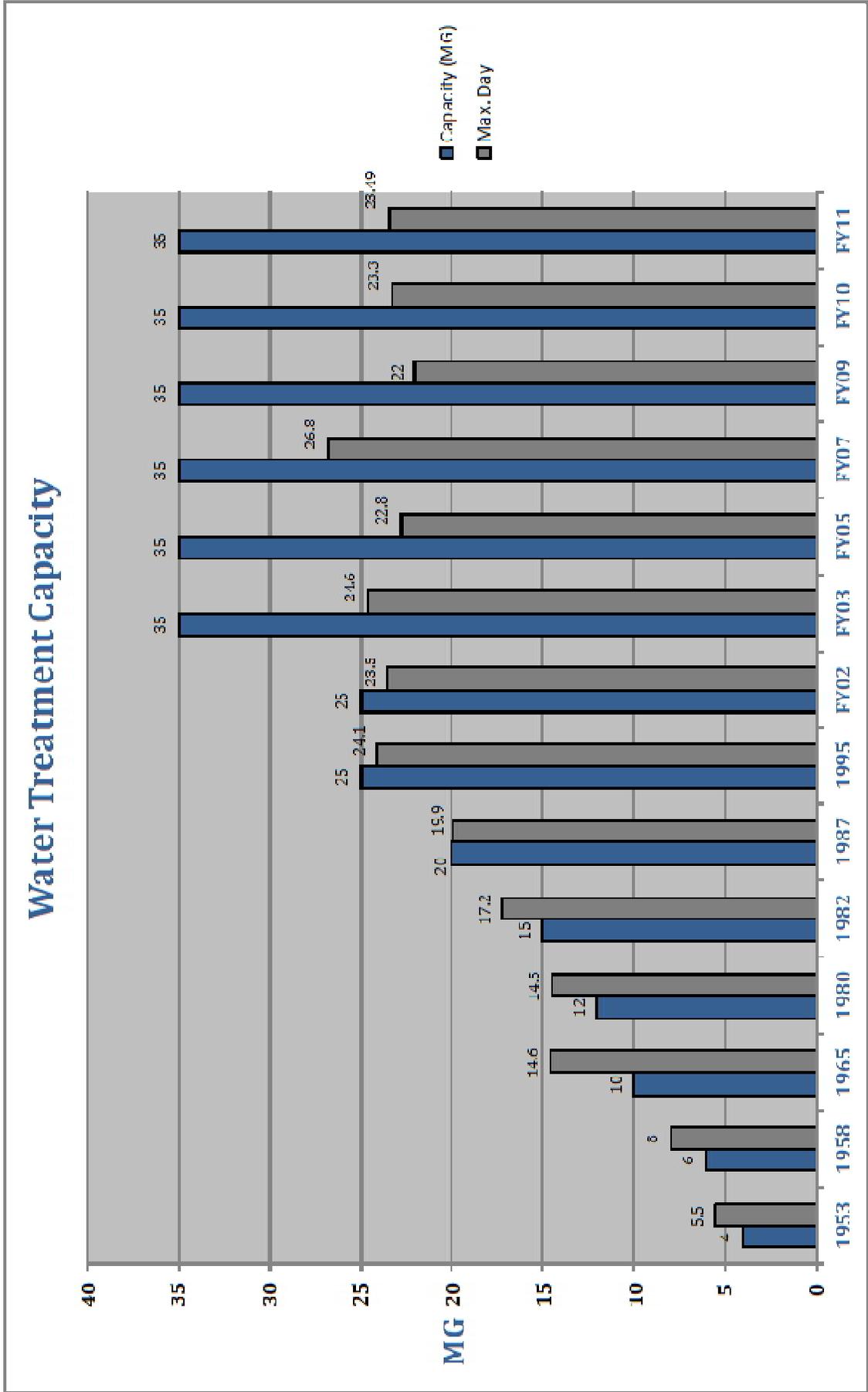


Scott Stripling surveys the Lakeside Water Treatment Plant at night.

Both the **Riverside** and **Lakeside** WTP's were once again awarded **Platinum Awards** by the **Georgia Association of Water Professionals**. This award recognizes a facility for meeting all water quality standards as set by the Georgia EPD for **five consecutive years**. This is our second year receiving this award.

MGD = Million Gallons Per Day MG = Million Gallons

The following is a chart indicating the treatment capacities of the facilities and the maximum water treated during any one day during each period.



## Cedar Creek Water Treatment Plant: Looking to the Future

- The Public Utilities Department has completed the design of the **Cedar Creek Water Treatment Plant**. We are poised and ready to proceed with construction and operation when the demand warrants. This treatment plant could be a critically important asset in the future as the demand for water resources increase.



# **WATER RECLAMATION**

**MISSION STATEMENT:** *To protect water quality by treating wastewater safely and effectively.*

## **SCOPE OF SERVICES**

The Water Reclamation group is committed to treating wastewater to meet or exceed state discharge standards and protecting the water quality of Flat Creek and Lake Lanier while disposing of its biosolids in an environmentally responsible manner. The group's facilities include the Flat Creek and Linwood Water Reclamation Facilities (WRF). The group is also responsible for the monitoring and poling of sixty (60) wastewater pump stations and responds to all after hour emergency calls regarding water and wastewater.

## **FACILITIES:**

The Flat Creek WRF, with the capacity 12.0 MGD, is the larger of two (2) WRF's in the system. Treatment at Flat Creek includes grit removal, primary treatment with dissolved air floatation, activated sludge biological treatment, clarification, and disinfection by ultraviolet radiation. Residual solids from the treatment process are thickened in settling tanks and de-watered using plate and frame type presses. The dewatered residuals are transported to EARTH Products, LLC, a privately owned composting facility in Plains, Georgia. At the EARTH facility, environmentally friendly composting of these residual solids and peanut hulls takes place. This compost is later sold as a soil conditioner.



**Flat Creek WRF**

The Linwood WRF is a new Advanced Tertiary Treatment facility, which includes membrane filtration. This 5.0 MGD treatment facility provides the additional treatment necessary to comply with new Lake Lanier discharge standards through the use of activated sludge biological treatment and disinfection by ultraviolet radiation. Residual solids from the treatment process are thickened and de-watered using a belt press. The dewatered residuals are transported to EARTH Products, where it is composted and sold as a soil conditioner.



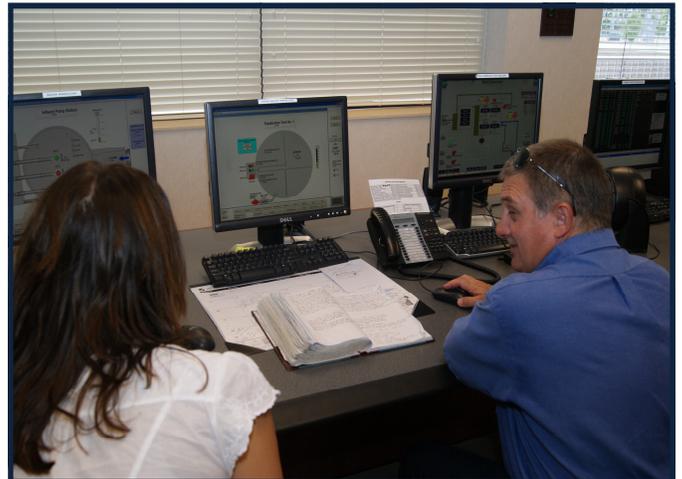
**Linwood WRF**

## Flat Creek Permitted Discharge Limits

|   | FY08  | FY09  | FY10  | FY11  |
|---|-------|-------|-------|-------|
| Flat Creek Weekly Avg. not to exceed (MGD)    | 15    | 15    | 15    | 15    |
| Flat Creek Monthly Avg. not to exceed (MGD)   | 12    | 12    | 12    | 12    |
| Flat Creek – Max. Day Flow (MG)               | 9.3   | 11    | 10.1  | 9.8   |
| Flat Creek – Avg. Day Flow (MG)               | 6.2   | 6.7   | 5.85  | 6.23  |
| Flat Creek – Total Treated (MG)               | 2,263 | 2,456 | 2,154 | 2,263 |
| Flat Creek – Biosolids Disposal (Tons)        | 2,457 | 2,380 | 2,791 | 3,518 |
|   |       |       |       |       |
| Linwood Permitted Discharge Limits            | 6.25  | 6.25  | 6.25  | 6.25  |
| Linwood Weekly Avg. not to exceed (MGD)       | 5     | 5     | 5     | 5     |
| Linwood Monthly Avg. not to exceed (MGD)      | 4.3   | 5.5   | 3.85  | 3.69  |
| Linwood – Max. Day Flow (MG)                  | 2.6   | 2.5   | 2.2   | 1.55  |
| Linwood – Avg. Day Flow (MG)                  | 949   | 910   | 803   | 584   |
| Linwood – Total Treated (MG)                  | 359   | 467   | 206   | 177   |
| Linwood – Biosolids Disposal (Tons)           |       |       |       |       |
|   |       |       |       |       |
| Combined Facility Total Treated (MG) -----    | 3,212 | 3,366 | 2,939 | 2,847 |
| Combined Total Biosolids Removal (Tons) ----- | 2,816 | 2,847 | 2,997 | 3,695 |

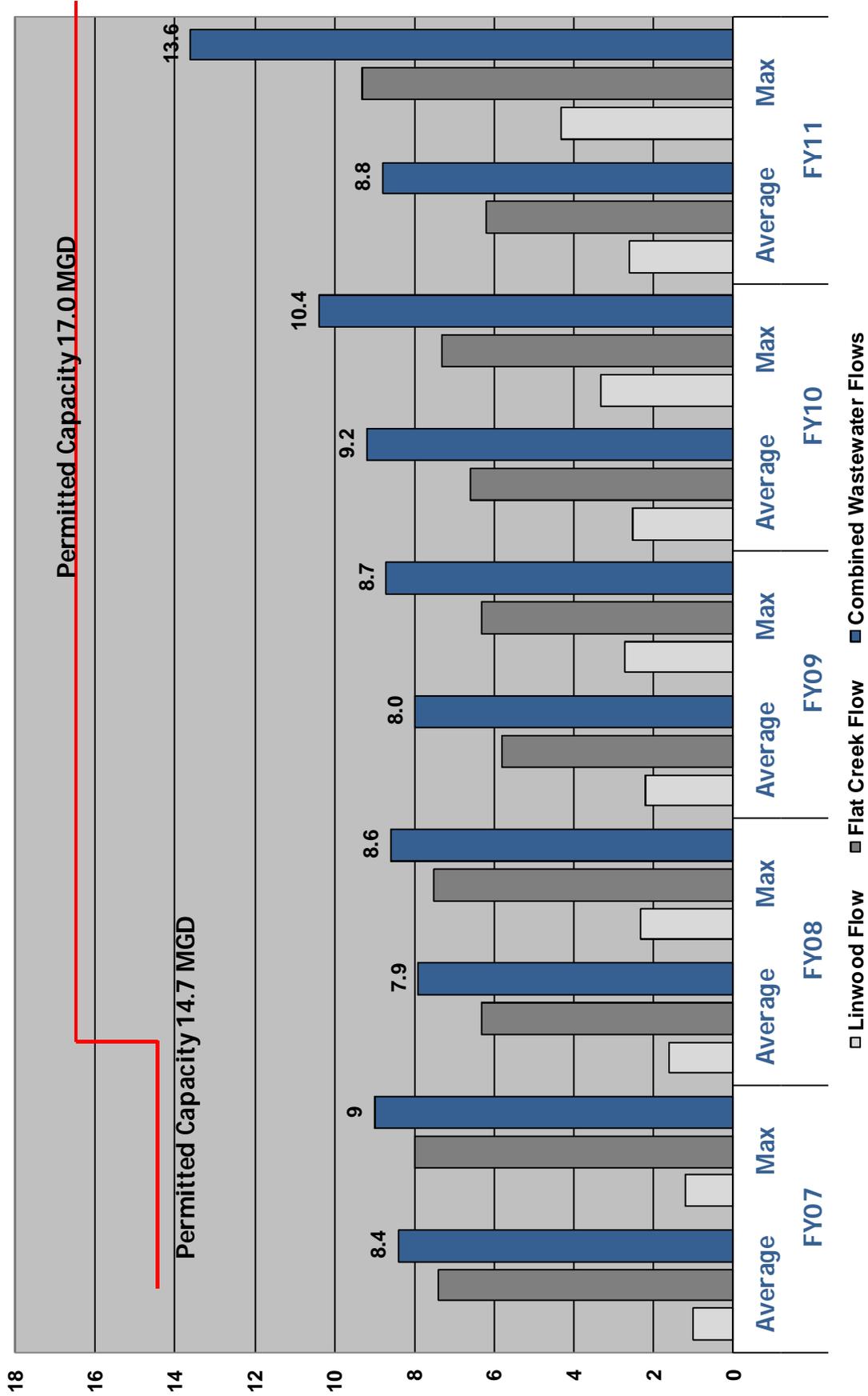


Mike Bishop (left) and Randy Caudle transport a membrane fiber rack at the Linwood Water Reclamation Facility



Rodney Anderson explains the computer control system at the Linwood Water Reclamation Facility

# Fiscal Year Wastewater Flows (2007-2011)



# Improving Operational Efficiency

The City of Gainesville’s Public Utilities Department continually seeks ways to enhance operational and cost efficiency. The following are improvements implemented by the water reclamation group in FY 2011:

## Flat Creek

Chemical usage was decreased by **14.1%** compared to FY11’s projected use by several different methods. Recent trials at the aeration basin to increase biological phosphorus removal have resulted in **savings** of \$685.00 in aluminum sulphate usage and \$5,000.00 in magnesium hydroxide this fiscal year. The strategy of producing the best quality of water at the most economical price was emphasized by management and carried out by our team of professional operators.

Power consumption increased by 3% compared to FY10, and though the cost per kWh increased by 12%, managers still stayed under projected budget by using the Tertiary Sand Filters only 25% of the time, and adhering to the use of GA Power’s Energy Direct Online Energy Management to get “Real Time Pricing”. When energy prices climb above \$0.10 per kWh, plant flow was dropped to 4 MGD. This allowed a reduction in cost of energy during peak hours of the day.

During this fiscal year, the Flat Creek Facility utilized knowledge of maintenance staff to visit and locate wastewater lift stations as part of a mission to become future first responders in after-hour situations. This has the potential of saving overtime hour paid to after-hour maintenance staff in the future.

## Linwood

Operators actively participated in quarterly safety inspections of the plant, along with our traditional monthly training quizzes on a numerous variety of safety topics. This year, we also added *Safe Handling of Liquid Sodium Hydroxide* to the safety program. All staff viewed a DVD on safety, concerning sodium hydroxide and reviewed data from Sodium Hydroxide MSDS Sheet. The importance of a safe environment for staff and visitors is always a top priority.

In an effort to improve operational procedures with sodium hydroxide, staff increased requirements for checking pH and alkalinity to every three hours. This increased their knowledge of sodium hydroxide dosing results and needs.

We continue to cross train Relief Operators and trainees between both facilities to fill in at short notice at either plant to reduce unscheduled overtime. Moreover, this year, we, like Flat Creek, have been in the process of training our staff for future after-hour first responder calls in regard to wastewater lift-stations.

Combined, both facilities only produced 1% less bio solids for disposal in FY11 compared to FY10 but cost was decreased by **7.9%** due to the rebid for services process, which occurred during this fiscal year.

# **MAINTENANCE SERVICES**

**MISSION STATEMENT:** *To efficiently maintain all Public Utilities plants, pump stations, and buildings.*

## **SCOPE OF SERVICES**

The Maintenance Services Division consists of three (3) sections: **Maintenance, Pump Stations, and Grounds Maintenance** - a total of twenty - two (22) positions.

In the **Maintenance** section, there are twelve (12) maintenance staff positions. Maintenance crews are responsible for preventive, routine and emergency repairs of fixed operating equipment at all PUD facilities. Pump mechanics and electricians are on standby duty at all times to handle after-hour situations.

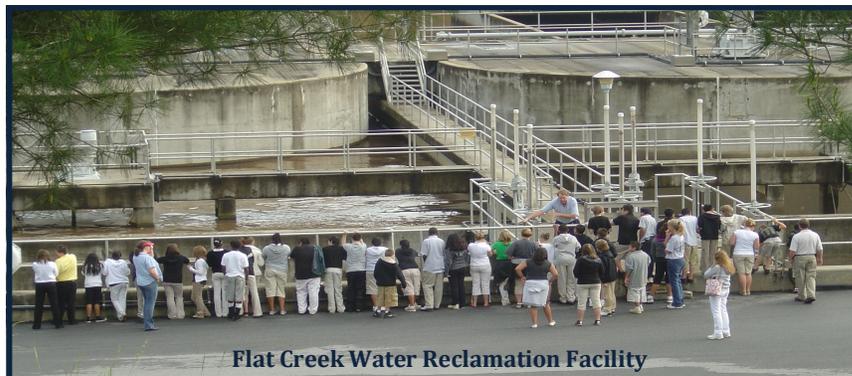
The **Pump Station** monitoring section has three (3) authorized positions in FY11. A Pump Station Supervisor within this group manages two (2) employees that are assigned to continually check and maintain the 60+ water and sewer pump stations throughout the City of Gainesville and Hall County. This process has helped to promptly react to equipment and operational problems before they become major environmental events.

There are seven (7) positions in the **Grounds Crew** section. They are responsible for grounds maintenance at the Public Utilities treatment plants, water tanks, pump stations, water and sewer line right of ways. In addition, the grounds crew is responsible for general maintenance, which includes painting, cleaning, and other duties as needed at all PUD facilities.

In an effort to improve operational efficiency, a procedure to utilize the plant operators at Flat Creek and Linwood to respond to power failures at pump stations was developed in FY 2011. In addition, the Riverside Water Treatment Plant equipment tag information was collected and has been incorporated into the maintenance management software.

### **FY 11 Statistical Indicators:**

- Total repair work orders - 980
- Total PM work orders -1,818
- After-hours emergency calls—90



# Water and Wastewater Facility Tours

In FY 2011, numerous tours were given of the city's water treatment plants, wastewater treatment plants, and laboratory facilities. The tours included everyone from water professionals to elementary school students. Gainesville Junior Achievement, Elachee Nature Center Environmental classes, North Hall High School Biology Classes and others have all toured the facilities.



- A.** James Stuart explains the inner workings of the Lakeside Water Treatment Plant's filters
- B.** An elementary student examines the flow of water from sample faucets
- C.** Elementary students walk across a portion of a water treatment processing area
- D.** Chris Dickerson explains the computer control system to a class of elementary school students
- E.** Michael West explains the science behind a modern water reclamation facility
- F.** James Stuart shows a group of students lamella plate settlers at the water treatment plant
- G.** Bill McKee explains one of the many chemical additions at the water treatment plant

# **ENVIRONMENTAL COMPLIANCE AND PERMITTING**

The Environmental Compliance and Permitting Division is comprised of two groups: the **Environmental Compliance** group and the **Permitting** group. The **Environmental Compliance group** is responsible for the city's water quality laboratory, the industrial pre-treatment program, commercial wastewater management, environmental monitoring program, forestry management, public education program, water conservation program and various other projects and programs as assigned. The **Permitting Services group** is responsible for review and permitting of all developments proposing connection to the City's distribution and collection system from inception to completion and enforcement of the backflow prevention program.

The two groups' offices are located in two different facilities: the Environmental Compliance offices and staff are located in the Environmental Services Laboratory at 2641 Old Flowery Branch Road and the Permitting group's offices and staff are located in the Public Utilities Administration facility at 757 Queen City Parkway.

**MISSION STATEMENT:** *Provide first rate quality assurance through permitting and management of water resources.*

## **SCOPE OF SERVICES**

The **Environmental Compliance and Permitting** staff consists of a total of **21** authorized positions working in **six** major areas of quality control and quality assurance. These programs support the successful operation of the department's water and wastewater treatment plants, help to ensure the quality of drinking water to the customers, provide for the protection and improvement of the community's water resources, and the review and permitting of all private developments and the administering of the City's backflow prevention program. The staff also endeavors to efficiently assist and educate residential and commercial customers, as well as the general public.

- The **Laboratory** staff provides quality and legally defensible analytical services to the Environmental Compliance section, other divisions of the PUD, and other departments of the City of Gainesville. All tests are conducted in accordance with the United States Environmental Protection Agency (US EPA) and Georgia Environmental Protection Division (GA EPD) regulations by following Standard Methods for the Examination of Water and Wastewater and American Society for Testing Methods. Laboratory services help to ensure the high quality of Gainesville's drinking water and that wastewater operations are in compliance with all state and federal regulations. The laboratory staff also provides water testing services to the City of Gainesville, Hall County, and surrounding county residents.

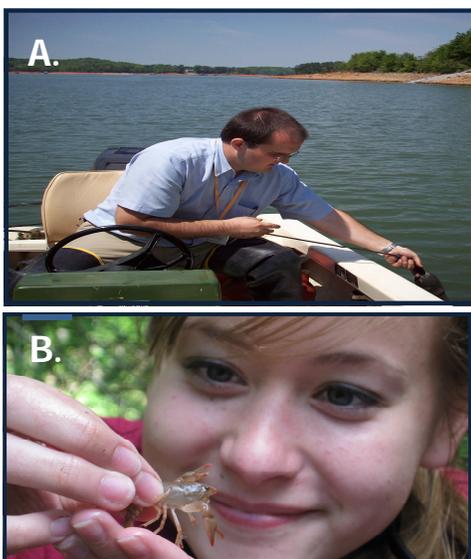


Staff assess a home for possible leaks and water-saving opportunities.



- The **Industrial Pretreatment** section administers the Industrial Pretreatment Program as mandated by the Federal Clean Water Act. Local businesses and industries are regulated and educated concerning wastewater discharges and changing federal, state, and local wastewater discharge requirements. This group also inspects and monitors these discharges in order to protect the wastewater treatment plants, workers, sewer system, and receiving streams. Gainesville's Fats, Oils, and Grease (FOG) program also resides under the umbrella of the Industrial Pretreatment section. This program manages the maintenance of facilities and disposal of commercial waste from commercial users of the collection system. This program also coordinates with designers during the preconstruction process of commercial and industrial facilities.
- The **Environmental Monitoring** group conducts visual site inspections on various creeks, chemical and microbiological sampling of area waters, quarterly stream walks, biological monitoring, and public awareness, education and participation to help protect local water resources and the surrounding environment. Environmental Monitoring provides a quality assurance function for the wastewater facilities and collection system and conducts environmental monitoring and public outreach activities as prescribed in the City's Watershed Management Plan and Municipal Separate Storm Sewer (MS4) NOI to detect and eliminate local water quality problems.
- The **Water Conservation Program** actively provides literature, programs, education and workshops within the Gainesville/Hall County community on ways residents can conserve their drinking water supply. This section communicates the current regulations of the State of Georgia's outdoor water use plan within the community and ensures Gainesville is following the Metropolitan North Georgia Water Planning District's water conservation plan. The program has continued offering Gainesville's Plumbing Retrofit Program, informative programming on the local TV-18 network and water efficiency workshops.

**Additionally, Environmental Compliance is actively involved in watershed protection through participation in the Community Watershed Assessment Project, the Metropolitan North Georgia Water Planning District (MNGWPD), the Upper Chattahoochee Basin Group, and the Georgia Adopt-A-Stream program.**



**A. A City of Gainesville Environmental Specialist performs a monthly water quality test on Lake Lanier.**

**B. 11th grade mentoring student, Patty Lawson, examines a crawfish caught during sampling.**

**C. Students find and identify bugs/macro invertebrates in a local stream.**

| <b>Environmental Compliance FY11 Statistical Indicators</b> |        |
|---|--------|
| # of Lab Samples Analyzed                                   | 8,991  |
| Total Analyses Conducted by Lab Services                    | 32,432 |
| Drinking Water/New Line Samples                             | 1,890  |
| Pretreatment Program Compliance Inspections                 | 2,693  |
| Environmental Site Inspections                              | 2,947  |
| Environmental Samples                                       | 1,027  |
| Public Presentations  | 228    |

- \* In addition to the formal annual inspections, an additional **2,423** visits were made to industrial and commercial facilities to inspect and sample for compliance with the pretreatment program. The total number of visits has decreased due to a change in our SOP to reduce our cost, while maintaining the same level of performance.
- \* The Fats Oils and Grease (FOG) program tracks 274 facilities, primarily restaurants, which use grease traps as their only pretreatment of wastewater prior to discharge to the City's collection system. Additional FOG accomplishments for FY11 included the inspection and permitting of 51 commercial waste transportation vehicles. The inspection and permitting process generated an additional **\$8,000.00** of revenue for the PUD.
- \* The Environmental Monitoring Program centers on the requirements to support water resource protection as specified in the Watershed Assessment Project (with specific emphasis on the directives of the Watershed Management Plan). Other regulatory drivers for this program now include Gainesville's Municipal Separate Storm Sewer (MS4) NOI and the requirements for pollution prevention BMP's at municipal facilities involved in industrial activity such as transportation shops and the airport. The result has been more time involved in public outreach (such as employee pollution prevention education, the Adopt-A-Stream program and water conservation education). During FY11, staff inspected **2,947** sites for environmental issues and collected **1,027** samples.
- \* Public presentations are done as part of the division's public outreach program as recommended by the Watershed Management Plan, Phase II MS4 requirements, Phase II Municipal Facilities Permit coverage, and as part of the city's water conservation efforts. These are done to educate the community about protection of local water resources. In FY11, **228** presentations were conducted.

**"Don't forget to become a Conservation Crusader and do your part in water savings for the future!"**



**Captain Conservation**

## Water Efficiency

Gainesville continues to promote water efficiency throughout the community through public participation and involvement. Customers continue to take advantage of the plumbing retrofit program by removing inefficient fixtures and replacing them with a 1.28gpf (gallon per flush) toilet. **204** Retrofit Rebates were issued in FY11. Residents also utilized the **Find-a-Leak Workshop** to check their home for leaks and attended the **Rain Collection Workshops** to construct water-saving rain barrels. Several City of Gainesville residents also participated in the free residential water assessments to help locate leaks and possible money and water saving opportunities in their homes.

Classroom presentations for all ages are still the “backbone” for spreading the water efficiency message. School participation in the rain barrel decorating contest is still popular. This year, the two categorical winners were: The DaVinci Academy for **Creative Barrel Add On** and North Hall Middle School for **Painted Barrel Category**.



A. The Da Vinci Academy won for Most Creative Barrel Add On  
B. North Hall Middle won for Best Painted Barrel



**34** Rain Barrels were distributed in FY11. If each barrel is used twice, **3,740** gallons of water will be saved.



A Rain Barrel is created at an FY11 Rain Barrel Workshop



## Community Education and Involvement

Community education and involvement are an integral part of raising awareness and ensuring sustainability of our natural resources. In FY11, the City of Gainesville conducted **228** public presentations. These included classroom teachings, appearances by Captain Conservation, Summer SEARCH and a mentoring program.

Both the mentoring program and Summer SEARCH are offered through the Hall County School System. Area high school students can sign up to be a part of the mentoring program and choose an organization that they want to shadow for a semester. One student is usually placed with the environmental services department and has the opportunity to tour the facilities and learn what the department does, as well as complete a special project based on their specific interests. The Summer SEARCH program is a one week enrichment program that is offered at the end of the school year. Rising 4th and 5th grade students can sign up to be a part of the Water Week course and become certified in Adopt-A-Stream and learn all about the principles of water. Environmental Services help throughout the week to train the students and take them out to monitor a local waterway.



- A. A City of Gainesville Environmental Specialist shows students how to measure dissolved oxygen
- B. A mentoring student presents her semester project
- C. A local 5th grade student learns to become certified to test streams
- D. Captain Conservation swears in new conservation crusaders
- E. Summer SEARCH students show their knowledge by testing the conductivity of a stream



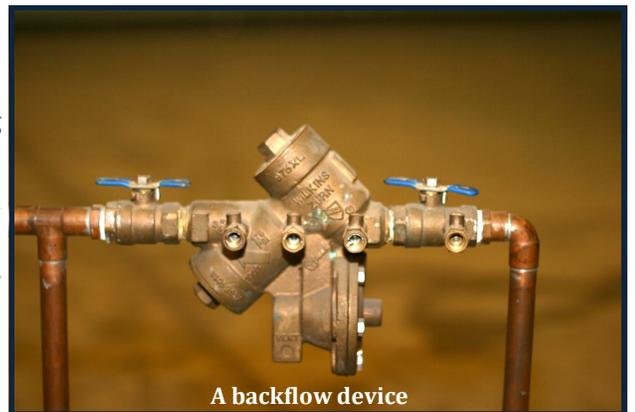
The **Permitting** group provides management of private development permitting and the **Backflow Prevention Program**. The Permitting group also provides assistance to the Engineering and Construction Services Division with in-house design and project management of sanitary sewer system replacement and extension projects. The following is a summary of responsibilities for this group:

### **Permitting:**

- Review and permitting of all commercial, industrial, and residential developments which propose to connect to the City's water or wastewater systems to insure compliance with the department's standards and specifications.
- Coordination activities with the Georgia Environmental Protection Division (GA EPD) associated with delegation of review compliance.
- Coordination activities with the Gainesville and Hall County Planning Departments for issuance of development permits through the City and the County plan review committees.
- Coordination activities associated with Gainesville and Hall County Building Inspections Departments and their issuance of Certificates of Occupancy (CO's) for projects that require PUD's inspections.
- Coordination activities with the Gainesville and Hall County Planning Departments concerning annexation requests for sanitary sewerage services as well as rezoning and variance request activities.
- Preliminary investigation to determine water and/or wastewater systems connection feasibility for future private developments.
- Preparation of water and sanitary sewer availability letters.
- Easement acquisition associated with water and wastewater systems located within private development projects.
- Coordination of activities with the Engineering and Construction Services Division for inspection of approved private development projects.
- Review and approval of as-built drawings for newly constructed public water and wastewater systems.
- Review and approval of fire sprinkler system drawings and subsequent coordination with the billing office for applicable sprinkler system fees.
- Production and updating of development guidelines and associated plan review checklists.

### **Back low:**

- Inspection of new and existing backflow prevention device installations.
- Tracking of required annual backflow test reports.
- Tracking of City approved backflow testers.
- Conduct monthly mail-out notification to customers for outstanding backflow prevention requirements.
- Production and updating of backflow prevention specifications and installation guidelines.
- Conduct inspections of private wells and reclaimed water systems for illegal cross-connection with City's water distribution system.
- Testing of existing backflow preventers on City facilities.
- Fire hydrant flow testing.



A backflow device

## Permitting FY 11 Statistical Indicators:

The following is the statistical indicator information for the **Permitting Group**:

- Reviewed **120** development plans and issued **82** development permits through City of Gainesville/Hall County Planning & Zoning Department.
- Reviewed **181** architectural drawings and **24** fire sprinkler system drawings.
- Reviewed and approved **114** proposed water service connections through the plan review and permitting process.
- Reviewed and approved **8** City of Oakwood, **2** Town of Braselton, **1** City of Flowery Branch and **2** City of Buford developments through direct permitting coordination with these jurisdictions.
- Reviewed **775** commercial building permits.
- Reviewed **19** applications for rezoning, variances, or annexations through the City of Gainesville's Planning and Appeals Board.
- Reviewed **80** applications for variances, conditional use, proposed amendments or rezonings through the Hall County Planning Commission.
- Forwarded **25** new construction projects to the Engineering and Construction Services Division. These projects required water and/or sanitary sewer construction inspections.
- Collected a total of **\$22,118.41** for water and sanitary sewer inspection fees to be performed by the Construction Management Division personnel and for fire hydrant flow testing.
- Conducted **49** backflow preventer inspections, of which **24** were approved through the Certificate of Occupancy (CO) issuance program.
- Received and logged **6,191** backflow preventer test reports.
- Issued **3** variances for backflow preventer installation locations.
- Issued **198** first, second, and third notices to those existing customers that had no backflow prevention devices installed.
- Issued **5,130** first, second, and third notices to existing customers with overdue or failed annual backflow prevention device test reports and issued **316** notices to device testers to provide up-to-date calibration and certifications.
- Issued **12** backflow inspection approvals through a divisional mail out program for customers with no record of a backflow prevention device installed.
- Conducted **9** fire hydrant flow tests for proposed private developments.

# ENGINEERING AND CONSTRUCTION SERVICES DIVISION

The Engineering and Construction Services Division began the fiscal year with 20 full-time and 1 part-time authorized positions. These positions may be broadly categorized as engineers, technicians, inspectors, and support staff. Most of the Division's offices and staff are located on the 2<sup>nd</sup> floor of the Public Utilities Administration Building at 757 Queen City Parkway.

**MISSION STATEMENT:** *To effectively execute assigned projects to meet the defined needs of our community.*

## **SCOPE OF SERVICES**

**The Engineering and Construction Services Division not only represents the Public Utilities Department but also the City as a whole on all Capital Improvements Projects (CIP) throughout design and construction. The services provided by the group may be summarized as follows:**

- In-house design, bidding, and construction services associated with water mains and sanitary sewer system improvements
- Project management functions related to services provided by various consulting engineers
- Computerized water and wastewater systems mapping, graphical presentation, and geographic information system (GIS) management
- Archival functions associated with technical plans and documents for the PUD
- Hydraulic analysis and overall planning activities associated with water and wastewater systems
- Construction management and inspection on all private developments that propose to connect to the City's water and/or wastewater systems
- Project concept and design, contract administration, construction management services of CIP for Public Utilities, Public Works, Parks and Recreation, and other City departments as directed by the City Management from inception to completion of project. Project and construction management services are also provided on Hall County sanitary sewer projects
- Payment and reimbursement processing for all projects related to the CIP
- Maintenance of all financial records related to the CIP as well as construction contracts and records from project inception to completion.
- **Other miscellaneous functions consist of the following:**
  - ◇ Periodic updating and maintaining water main and sanitary sewer extension and/or replacement
  - ◇ Field surveying
  - ◇ Five year CIP development and tracking
  - ◇ Preparation of the Department's presentation at the annual workshop with the City Council
  - ◇ Evaluation of new water and wastewater products to determine if they meet PUD standards
  - ◇ Coordination and preparation of annual updates of the Department's Standard Specifications
  - ◇ Negotiation and purchasing of land and easements required to construct projects; processing and maintaining associated documents, databases and files.

## Statistical Indicators:

The following statistical indicators have been compiled to provide a more clear and quantifiable picture of the Engineering and Construction Services Division's accomplishments during FY11:

- Provided project management and construction management / resident engineering services on **13** capital improvement projects that were completed in FY11 and **16** on-going capital improvement projects for Gainesville's Public Utilities Department, Public Works Department, Georgia Mountain Center, Fire Department, Police Department, Parks and Recreation Agency, and Hall County Public Works and Utility Sanitary Sewer projects.
- Provided construction inspection and management for the following connections to the Public Utilities' water and wastewater system:
  1. Approximately **6.67 miles of water main** and **61 fire hydrants**. These figures include private fire mains and private fire hydrants.
  2. Approximately **0.44 miles of gravity sanitary sewer** and **18 new manholes**.
- Collected GPS coordinates for approximately **544 water meters, 56 sanitary sewer manholes, 247 fire hydrants, and 101 valves**.
- Completed scanning of approximately **2,370 plan sheets** and **300 valve cards**.
- Created approximately **15** graphical exhibits including the PUD's presentation for the annual **Citizen's Government Academy** and the **Workshop with the City Council**.



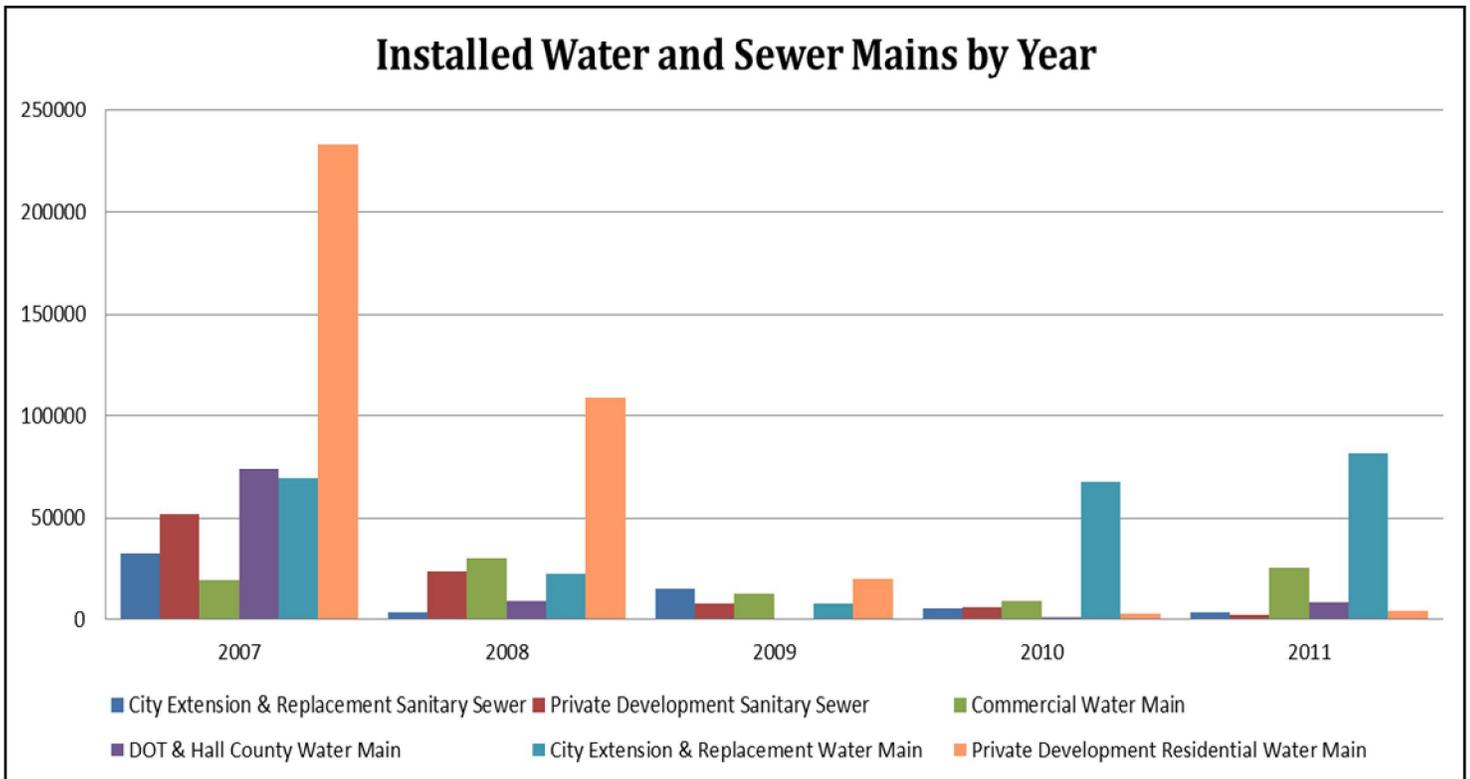
Based on the information provided above relevant to the completed projects, the total footage of water mains and sanitary sewers constructed or abandoned during FY11 were computed. These figures are presented and are compared with the previous four fiscal years' figures in the following tables:

| <b>SANITARY SEWER CONSTRUCTION/ABANDONMENT HISTORY</b> |                                    |                      |                                |                                  |                    |                              |
|--|------------------------------------|----------------------|--------------------------------|----------------------------------|--------------------|------------------------------|
| YEAR   | Gravity Sewers Constructed (Miles) | Manholes Constructed | Force Main Constructed (Miles) | Gravity Sewers Abandoned (Miles) | Manholes Abandoned | Force Main Abandoned (Miles) |
| FY07   | 15.98                              | 377                  | 6.1                            | 3.03                             | 10                 | 1.01                         |
| FY08   | 4.85                               | 151                  | 0.38                           | 0                                | 0                  | 0                            |
| FY09   | 4.31                               | 99                   | 3.67                           | 0.6                              | 24                 | 5.04                         |
| FY10   | 2.33                               | 71                   | 2.73                           | 0.57                             | 12                 | 1.21                         |
| FY11   | 1.3                                | 51                   | 2.31                           | 0.66                             | 14                 | 0.1                          |

\*Figures have been updated to reflect the Division's actual numbers. These numbers do not reflect total of mains and manholes.

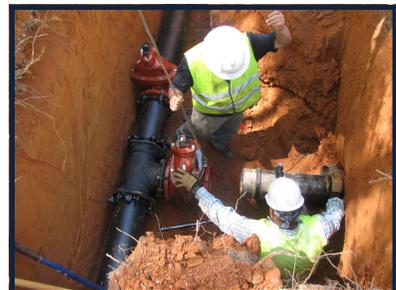
| <b>WATER LINE CONSTRUCTION/ABANDONMENT HISTORY</b> |                                 |                         |                               |
|--|---------------------------------|-------------------------|-------------------------------|
| YEAR   | Water Lines Constructed (Miles) | Fire Hydrants Installed | Water Lines Abandoned (Miles) |
| FY07   | 74.86                           | 600                     | 18.22                         |
| FY08   | 32.35                           | 272                     | 3.81                          |
| FY09   | 7.8                             | 79                      | 0                             |
| FY10   | 15.28                           | 111                     | 3.9                           |
| FY11   | 22.62                           | 165                     | 0.54                          |

| TYPE OF INSTALLATION                   | FY 2007   |          | FY 2008   |          | FY 2009   |          | FY 2010   |          | FY 2011   |          |
|--|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
|  | TOTAL FT. | % CHANGE |
| PRIVATE DEV. COMMERCIAL WATER MAIN     | 18,953    | 130.77%  | 30,157    | 59.11%   | 13,021    | -56.82%  | 9,017     | -30.75%  | 3,590     | -60.19%  |
| PRIVATE DEV. SANITARY SEWER            | 51,900    | 33.16%   | 24,064    | -53.63%  | 7,857     | -67.35%  | 6,335     | -19.37%  | 2,323     | -63.33%  |
| PRIVATE DEV. RESIDENTIAL WATER MAIN    | 232,877   | 81.06%   | 108,752   | -53.30%  | 19,959    | -81.65%  | 3,165     | -84.14%  | 25,405    | 802.69%  |
| D.O.T. & HALL CO. WATER MAIN           | 74,147    | 64.38%   | 9,174     | -87.63%  | 200       | -97.82%  | 862       | 331.00%  | 8,615     | 999.42%  |
| CITY EXT. & REPLACEMENT WATER MAIN     | 69,304    | 14.06%   | 22,728    | -67.21%  | 8,016     | -64.73%  | 67,650    | 742.84%  | 81,828    | 120.96%  |
| CITY EXT. & REPLACEMENT SANITARY SEWER | 32,484    | 30.66%   | 3,552     | -89.07%  | 14,869    | 318.61%  | 5,980     | 59.78%   | 4,540     | -24.08%  |



Projects **COMPLETED** during FY 11 are as follows:

1. Public Safety Building (PSB) demolition and abatement
2. Balus Creek regional sewerage facilities (RSF)
3. Split diamond utilities relocation
4. Thurmon Tanner utilities relocation
5. GEFA Year 21 sewer system improvements – Contract 1
6. Mountain View Lake Estates water main extension
7. FY 2009/ 2010 water meter replacement
8. South Hall water main extension
9. Water distribution system storage tanks evaluation and maintenance program
10. FY 2011 automated meter reading
11. Hall area transit relocation
12. FY 2011 water meter replacement
13. New PSB complex design and construction

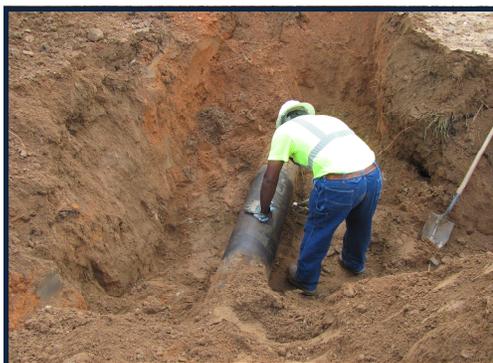


**Mountain View Lake Estates water main extension**

This project provided a reliable and high quality public water source for a community with a failing private water supply system.

## **ACTIVE** projects managed during FY 11 but carried forward are as follows:

1. City View Center – elevated pedestrian walkway
2. Flat Creek stream restoration – Upper North Fork/ Mid-town Greenway
3. Mulberry Creek RSF – Divisions 1 and 2
4. FY 11 WTP and WRF maintenance
5. Friendship Road (SR 347) and Thompson Mill Road utilities relocation
6. Telemetry system improvements
7. Calvary Church Road utilities relocation
8. GEFA Year 23 – Contracts 1 and 2
9. Stringer Avenue storage tank rehabilitation
10. Water distribution system storage tanks maintenance program
11. Cedar Creek WTP
12. WTP raw water meter improvements
13. FY 12 transmission main improvements
14. Cedar Creek STP transmission main improvements – Phase 1
15. FY 2012 water meter replacement
16. Georgia Mountains Center parking deck expansion.



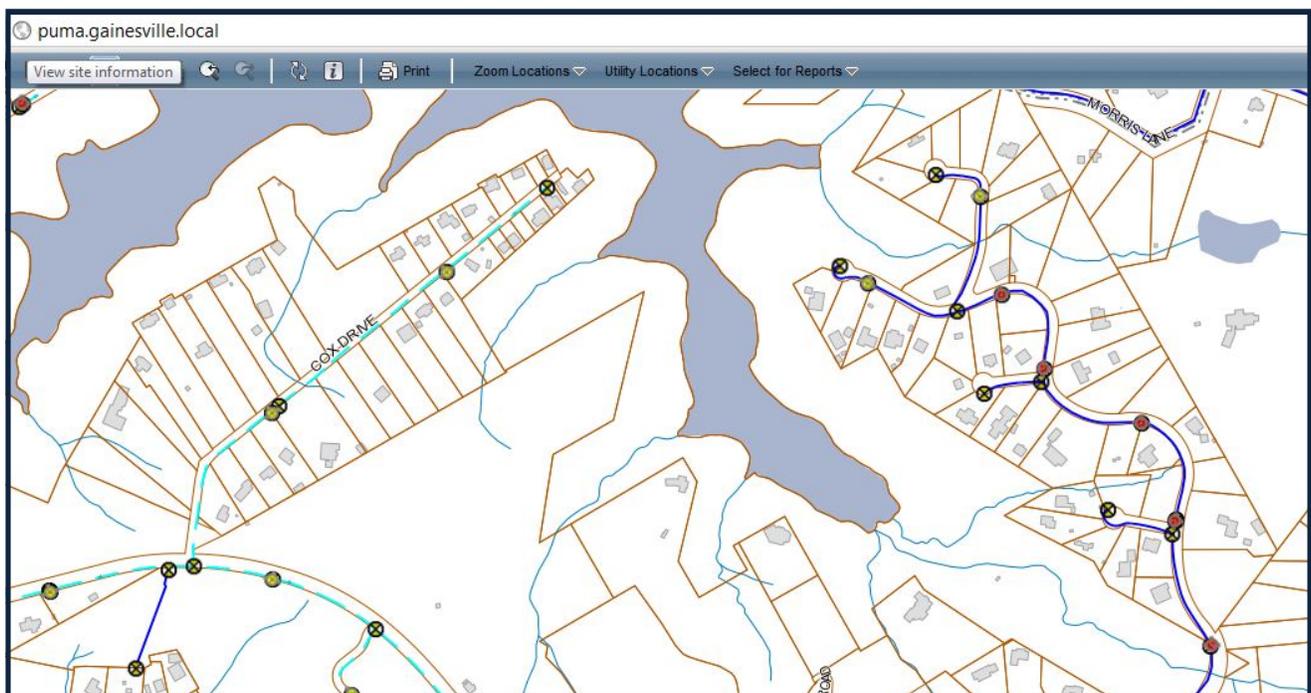
**South Hall Water Main Improvements**

**In addition to the normal scope of services and ongoing and completed projects, the Engineering and Construction Services Division also accomplished the following tasks in FY 2011:**

- Updated and calibrated the Department's water distribution system hydraulic model.
- Modified and retooled the Division's easement handling process.
- Updated, re-advertised, and completed the Department's prequalification program for consultants for the period of 2011 through 2015.
- The GIS group implemented the new **GIS mapping application** (PUMA)

## **New Mapping Application**

In FY 2011, the Engineering and Construction Services Division's GIS/Mapping Group upgraded the web-based mapping application, MapGuide 6.5, to Autodesk Infrastructure Map Server. MapGuide 6.5 is considered older technology and did not support certain web browsers. The new software can be used with any web browser. Also, data may now be consolidated and linked in the database, reducing the number of files and drawings to maintain. Some additional benefits of the project include security to control data access/modifications and the creation of data entry forms to input information directly into Oracle. **Eventually, a simplified Public Utilities GIS website will be available to the general public.**



**A map from the new mapping application**

# DISTRIBUTION AND COLLECTION DIVISION

The Distribution and Collection Division is comprised of two sections: **Water Distribution** and **Wastewater Collection**. The major functions and tasks of these two groups are: the operation and maintenance of the water distribution and wastewater collection system, providing a safe environment to the public, and ensuring that quality and reliable water and sewer service are provided to our customers. These tasks include: repairing minor water leaks, inspection and maintenance of fire hydrants, flushing water to improve water quality, locating or marking water and sewer lines, cleaning and inspecting sewer lines, and clearing easements to insure ready access.

The offices and staff of these two sectional groups are located at the 1040 Hancock Avenue facility.

## WATER DISTRIBUTION

**MISSION STATEMENT:** *To ensure the distribution of safe drinking water by maintaining the City's water system.*

### SCOPE OF SERVICES

The Water Distribution staff, which includes the Division Manager, performs the following functions: provides utility locates, assists with water and sanitary sewer repairs, performs right-of-way maintenance, repairs and services fire hydrants, performs vehicle and equipment maintenance, performs water valve maintenance, and carries out all welding activities and tool fabrication. The Administrative and Managerial team of this Division provides administrative and management support. The Division's Manager and Superintendents represent the City of Gainesville on various committees and state professional organizations as well as provide input on future system expansion planning.

### STATISTICAL INDICATORS:



The Division maintains approximately **8,725** fire hydrants in the water distribution system. Each fire hydrant is inspected annually with the assistance of the local fire departments. In FY11, **209** fire hydrants were repaired, serviced, or replaced in order to ensure fire protection for our community.

Determining the location of utilities is another function the Division performs related to water distribution. In FY11, a total of **12,156** locates were performed by the Division. All utility providers are required by state law to mark their utility locations prior to beginning work. This requirement prevents costly damages, reduces outages to customers, and provides for the general safety of those performing utility work.



A PUD employee performs a utility locate

**In addition to the normal scope of services and ongoing and completed projects, the Distribution and Collection Division also accomplished the following tasks in FY 2011:**

- Surveyed **16.5 miles** of the distribution system and located **7 leaks** with the new leak detection program
- Installed new or replaced over **1800'** of water mains to improve the water distribution system



**Employees of the water distribution and collection division at work.**



# WASTEWATER COLLECTION

**MISSION STATEMENT:** *To ensure the environmentally safe collection and transportation of sanitary sewage by maintaining the City's sewer system.*

## SCOPE OF SERVICES

The Wastewater Collection staff is responsible for insuring that the collection system is operating properly. One major preventative maintenance function of the Utility is cleaning sanitary sewer collection pipelines. These efforts greatly reduced the possibility of environmentally damaging sewer overflows and prevent isolated sewer problems for our customers.

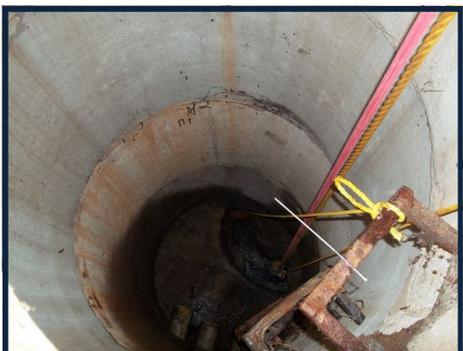
The Inflow and Infiltration (I&I) Team, which is a technical group responsible for eliminating and reducing groundwater and rain-water flows into the sanitary sewer collection system, is also part of the Collection Division. This team conducts flow monitoring, manhole inspections, CCTV inspections, and smoke testing within the sewer system.



A collection crew cleans a sanitary sewer pipeline

IN FY 11,  
collection  
crews  
cleaned over  
**445,000** feet  
of sewer  
pipeline and  
manholes  
and cleaned  
various lift  
stations over  
**100** times.

The Wastewater Collection Division was awarded “**Best Operated Wastewater Collection System**” for 2010 by the **Georgia Association of Water Professionals**.



## Sewer Restoration

The City of Gainesville's Public Utilities Department continually seeks out opportunities to be a more efficient and advanced utility. In 2011, Public Utilities purchased new, trenchless cured-in-place spot repair sewer rehabilitation equipment. This machinery allows the Water Collection System staff to make repairs to sanitary sewer mains without excavating streets or parking lots, therefore reducing the time and costs of repairs. The equipment utilizes a chemical resin material which is inserted into the sewer pipe with an inflatable, removable bladder. The equipment is used to reduce infiltration and improve structural integrity of the sanitary sewer system. Over 20 "cured in place" spot repairs were conducted in FY 2011.





**FY 2011 Annual Report**