

**City of Gainesville  
Public Utilities Department  
Annual Report  
FY13**



# FY13 Annual Report

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**CITY OF GAINESVILLE**

•  
**PUBLIC UTILITIES  
DEPARTMENT**

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To Our Customers:

As I sit down to write this letter it strikes me how smoothly this year passed. Fiscal Year 2013 was not punctuated with major events either good or bad. Mostly it was a year to keep our ship sailing straight away.

Having said that, there were several items worthy of note. First there are the awards. The Georgia Association of Water Professionals (GAWP) presents awards for outstanding operations, efforts, and programs each year. This year our Environmental Services Group won the GAWP Public Education Program of the Year Award for 2013. Our Plant Manager of the Flat Creek Water Reclamation Facility, Michael West, earned the William D. Hatfield Award for outstanding performance and professionalism in operations, and both Drinking Water Plants, Lakeside and Riverside, were awarded Platinum Awards for 100% compliance for over 5 years. Our Sanitary Sewer Group received the Silver Award for outstanding operation of our wastewater collection system. These awards exemplify the commitment our staff has to provide you, the customer, with the best possible service we can obtain.

Second, though we continued to see a rise in water meter sales and a recovery within our local economy, water sales did not meet our expectations. We believe this is due to the incredibly wet period we have been experiencing. We saw 63 inches of rainfall during FY13. Normally one would expect about 54 inches. We had budgeted \$29.4 million in revenues and only received \$27.9 million. However, we managed quite nicely as we “tightened our belts” and were able to keep our expenses well below budget.

Lastly, I’d like to take note of our efforts to work more cost effectively with our neighboring local governments. In April of 2013 we entered into an agreement with the Town of Braselton to bill their sanitary sewer customers who receive water service from us. This arrangement saves our customers money and Braselton no longer has to read our meters and process individual bills. This cooperation helps all those concerned save. We will continue to look for partnering options.

To close, we look forward to another year of service. One that is not rocked by significant events but one that we can continue to work for you in a more efficient, customer oriented fashion.

Kelly J. Randall, P.E.  
Public Utilities Director

11/8/13 (2)



## **INTRODUCTION**

The City of Gainesville's System supplies water to a geographic area of approximately **400** square miles, including Braselton, Buford, Clermont, Flowery Branch, Gainesville, Gillsville, portions of the Lula and Oakwood areas, and unincorporated Hall County. The City maintains over **1,600** miles of underground water and sewer pipelines.

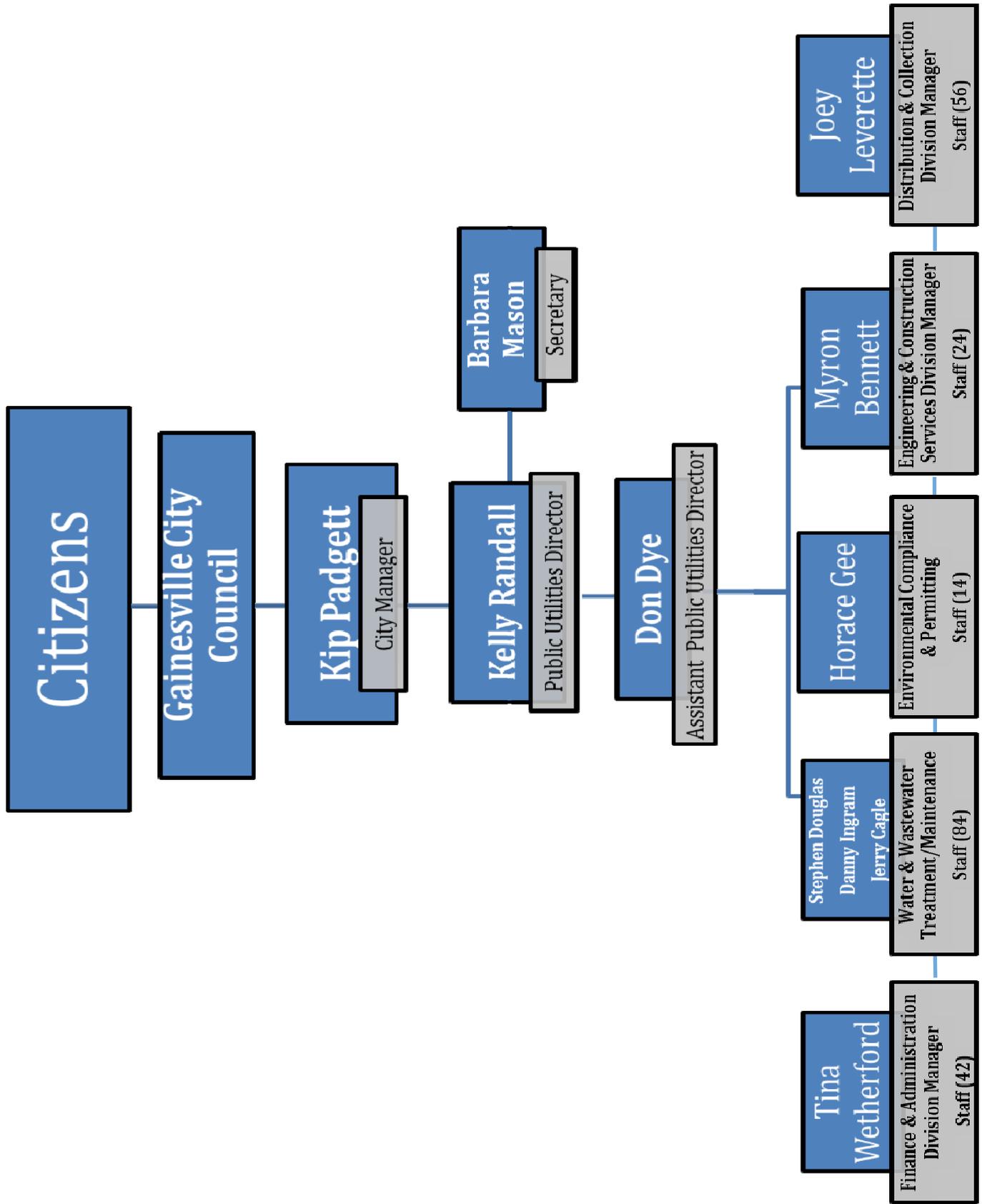
The source of supply of raw water for the System is Lake Lanier, an impoundment of the Chattahoochee River that is owned and operated by the U.S. Army Corps of Engineers. The Georgia Department of Natural Resources, Environmental Protection Division ("EPD") also governs water withdrawal from Lake Lanier 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.**

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 working 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**
- **Water & Wastewater Treatment Services / Maintenance**
- **Engineering & Construction Services**
- **Distribution & Collection Services**

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



## 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/>

## FY13 at a Glance:

<b># of Authorized Positions</b>	<b>230</b>
<b>Miles of Water Mains</b>	<b>1345</b>
<b>Miles of Sanitary Sewer</b>	<b>285</b>
<b>Meters Served</b>	<b>51,672</b>
<b># Active Water Accounts</b>	<b>47,892</b>
<b># Active Sewer Accounts</b>	<b>9,157</b>
<b># of Customers Served</b>	<b>129,308</b>
<b>New Water Connections (Water Meters Sold)</b>	<b>480</b>
<b>New Sewer Connections (Sewer Taps Sold)</b>	<b>13</b>
<b>Water Treatment Plants' Maximum Daily Capacity</b>	<b>35 MGD</b>
<b>Wastewater Treatment Plants' Maximum Daily Capacity</b>	<b>17 MGD</b>

## Fiscal Year 2013:

(July 1, 2012 through June 30, 2013)

This fiscal year has been another year filled with significant events and achievements for the City of Gainesville's Public Utilities Department. Our Department has received several awards this year in recognition of its dedication and excellence in conservation efforts, education, and public outreach. In addition, many important projects were begun, continued and completed by the Utility in FY 2013.

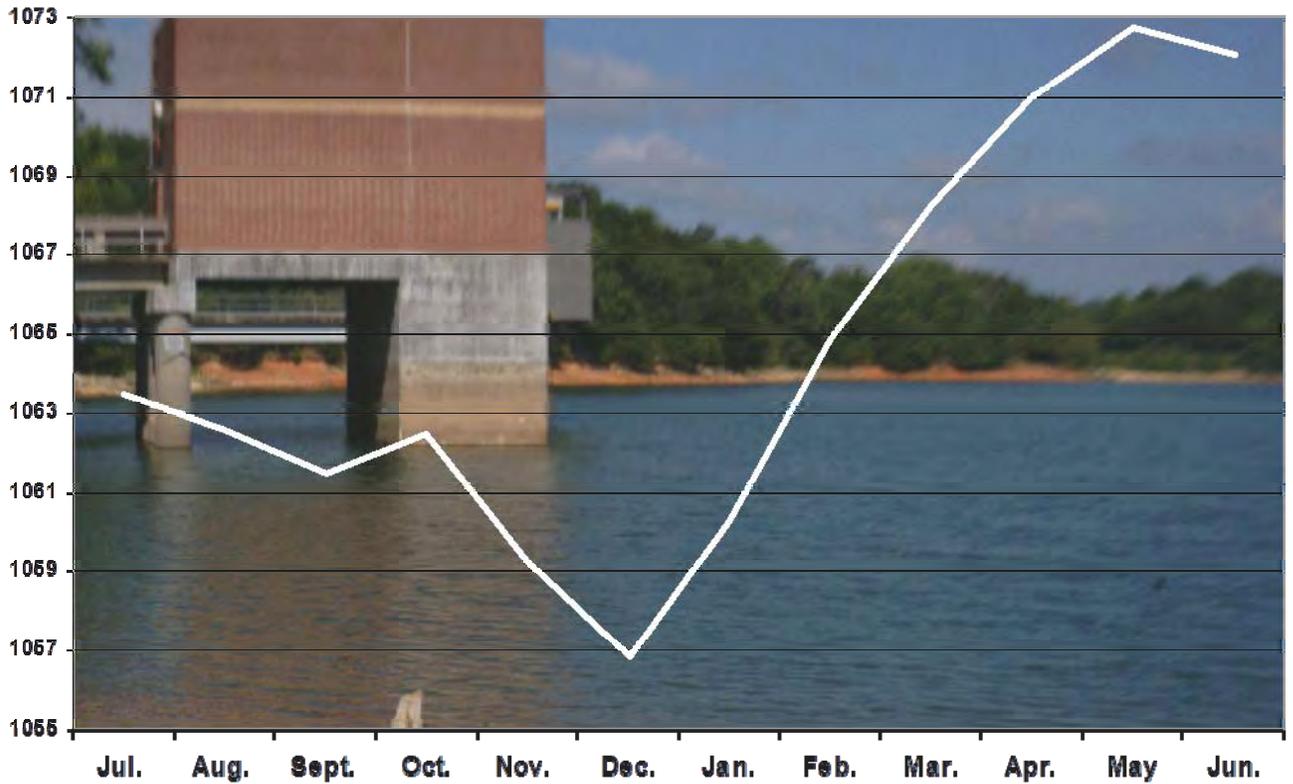
## Water Drop Dash

The Metropolitan North GA Water Planning District held the Inaugural **Water Drop Dash** this past March to kick off Fix-A-Leak week. As Members of the District, the City of Gainesville participated. Conservation Crusader ran in the Mascot Race along with our running toilet. Conservation Crusader also ran the 5k! The City also had a booth at the education fair where water fortunes were told and people were shown how well a low flow showerhead really works with the movable sink. The Dash and Fair were held in Roswell at the Chattahoochee Nature Center, along the banks of the Chattahoochee River. Next year's race will be March 15<sup>th</sup> at the same location.



# FY 2013 Highlights

## FY 13 Monthly Average Lake Levels (July 2012-June 2013)



*This year has been a year of change for Lake Lanier. The Lake has gone from a low of 1056.86 to above full pool.*



This is the same Lake Lanier Pump Station pictured above today with the Lake above full pool.

## AWARDS

The City of Gainesville's Environmental Services Division was recognized for its conservation efforts and commitment to public outreach and education in FY 2013. The Georgia Association of Water Professionals' awarded the group with the **Public Education Program of the Year Award** for 2012.



GAWP Executive Director, Pam Burnett presents the **2012 GAWP Program of the Year Award** to Brian Wiley, Tyler Sims and Corey Jones



Michael West is presented with the **William D. Hatfield Award**

Flat Creek Water Reclamation Facility Manager, Michael West, earned the **William D. Hatfield Award** for outstanding performance and professionalism in the operation of the Flat Creek Facility.

The City of Gainesville's Lakeside and Riverside Water Treatment Plants were both awarded the **Platinum Award** for 100% compliance with GA system permits for more than five consecutive years..



The Lakeside and Riverside Water Treatment Plants are presented with the **Platinum Award**.



Joey Leverette accepts the Silver award on behalf of the Wastewater Collection team

The City of Gainesville's Wastewater Collections Division received the **Silver Award** for outstanding operations of the City of Gainesville's Wastewater Collection System.



## 2013 Citizens' Government Academy

The City of Gainesville held its 7th Annual Citizens' Government Academy in FY13. The 9-week program delved into the inner workings of Gainesville's government. Different city departments were explored, including Public Utilities. In week 7, Public Utilities' Director Kelly Randall discussed the department's operations, achievements, and goals. Students were also given tours of the Riverside Water Treatment Plant, as well as the Linwood Water Reclamation Facility.



2013 Citizens' Government Academy Graduates

*"I thoroughly enjoyed myself and learned about the functions of departments within the city."*

**-Rebecca Stoye**

2013 Citizens' Government Academy Graduate

## Chamber Chase 2013



Chicken City Chasers

The Greater Hall Chamber of Commerce's 6th Annual Chamber Chase 5K was held at Riverside Military Academy.

The City of Gainesville's team, Chicken City Chasers, participated in the event.

# FY 2013 Highlights

## 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 FY13, **2,700** pounds of trash and debris was removed from Flat Creek Cove by **212** volunteers.



## Gainesville Pedestrian Bridge

### Connectivity



The Gainesville City Council cordially invites you to the dedication of the Gainesville Pedestrian Bridge Tuesday, October 16, 2012, 3:30pm City View Side of the Bridge

Details: 770-297-5499



October 16, 2012 marked the official dedication of the Gainesville Pedestrian Bridge. The bridge, which connects the Georgia Mountains Center to the site of future development, brings a fresh, exciting change to Gainesville's downtown area.



Mayor Danny Dunagan and his grandchildren take the first walk across the bridge



# FINANCE AND ADMINISTRATION DIVISION

The Finance & Administration Division is comprised of two sections: **Customer Account Services** and **Finance & Administration**. The Division consists of **46** authorized positions which may be broadly categorized as **customer service representatives, customer advocates, billing staff, meter services/sales staff, warehouse staff, administrative and support personnel, financial and divisional management, Assistant Director and the Director's office.**

## CUSTOMER ACCOUNT SERVICES

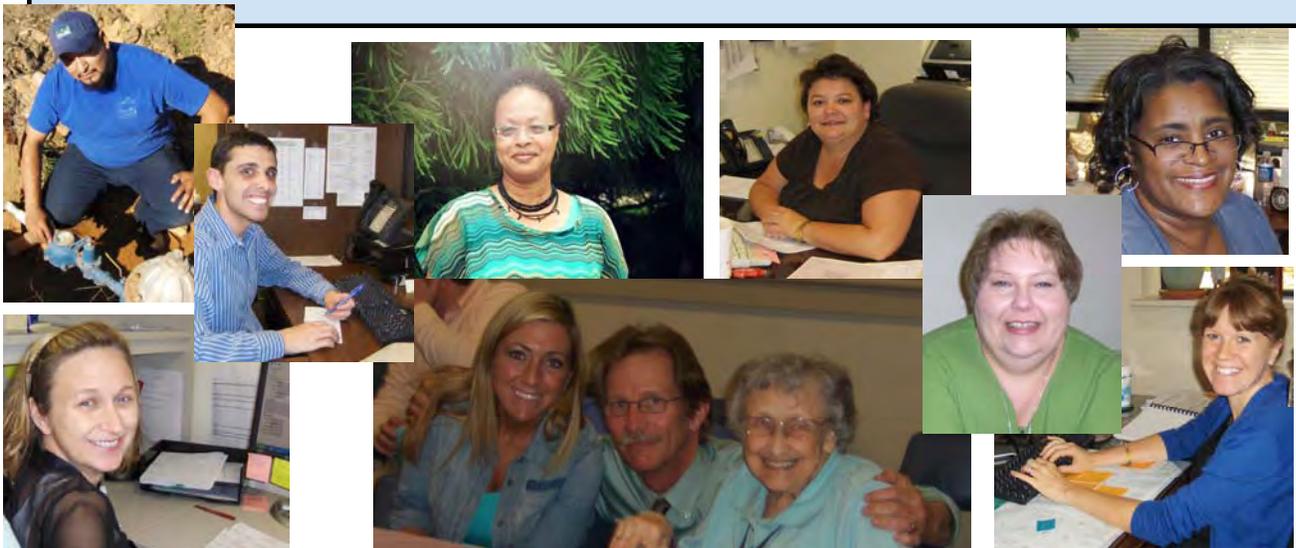
**MISSION STATEMENT:** *To provide our customers with professional, accurate and efficient services.*

### 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.

**FY13 Customer Account Services Statistical Indicators:**

- 67,732 customer calls handled
- 7,363 applications for new service processed
- 269,439 transactions posted
- 53,228 payments made through our website
- 29,548 service orders completed



Public Utilities' Finance & Administration/Customer Account Services employees

# Braselton Sewer Billing

In May 2013, The City of Gainesville entered into an intergovernmental agreement with the Town of Braselton to bill sewer (wastewater) for customers who are served by the City of Gainesville for water, but sewer (wastewater) services are provided by the Town of Braselton. This is a great convenience for our customers because they will now receive one bill for both water and sewer charges.

The Town of Braselton will continue to handle all operation and maintenance regarding sewer for their customers.



## Community Assistance: Help 2 Others



The City of Gainesville Public Utilities Department launched its **Help 2 Others (H2O)** Round Up program in early FY 2012. We have partnered with the Salvation Army's **Project SHARE** in an effort to raise funds to assist those in need. City of Gainesville customers who choose to participate will have their utility bills rounded to the next whole dollar. These additional funds will be disbursed by the Salvation Army to fellow City of Gainesville utility customers facing financial hardship. The assistance will be used to help with 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.

*A Big Thank You  
to the*

*City of Gainesville  
Utility Customers!*

**Our 2nd year of the  
H2O Round up Program**

**Brought in \$8,750.46**

**This more than doubled  
our previous year's  
contributions**

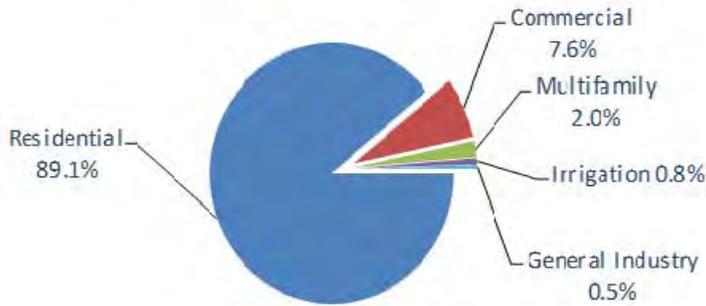
**-Tina Wetherford**  
Finance & Administration Division Manager

# Our Customers: Water

50.4% of our water revenue comes from our residential customers, who comprise 89.1% of our customer base. General Industry though they make up a small percentage of 0.5% of our water customers, continues to comprise 27.3% of water revenue and 33.3% of water usage.

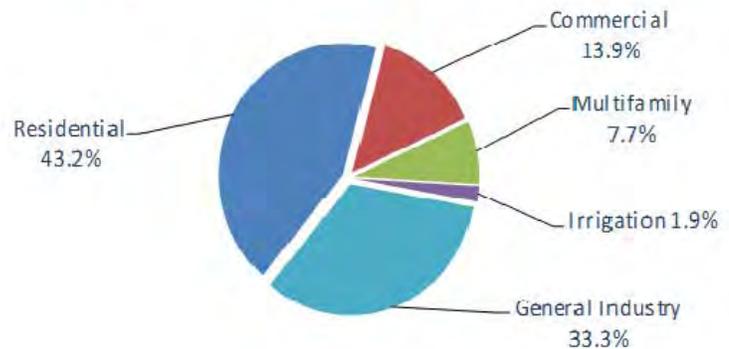
## Water Customers

■ Residential ■ Commercial ■ Multifamily ■ Irrigation ■ General Industry



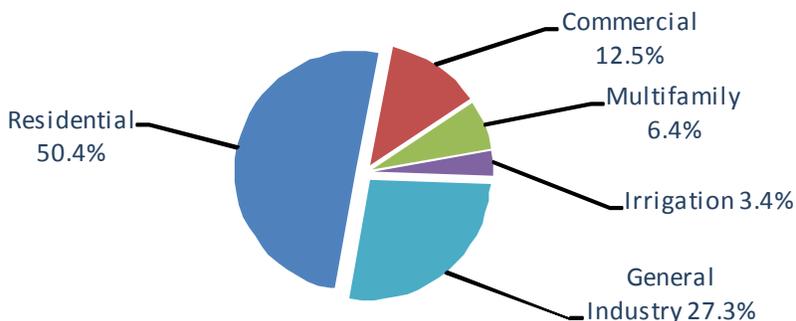
## Water Use

■ Residential ■ Commercial ■ Multifamily ■ Irrigation ■ General Industry



## Water Revenue

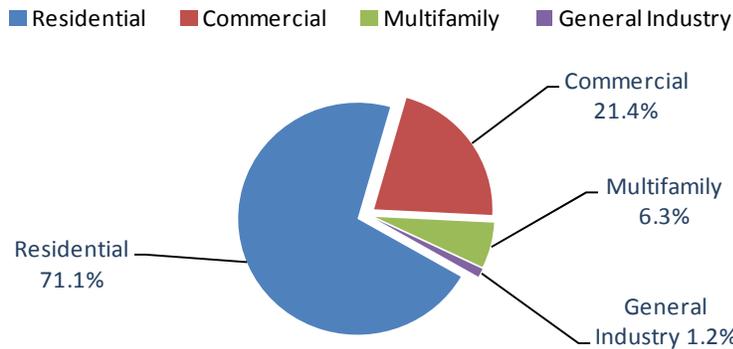
■ Residential ■ Commercial ■ Multifamily ■ Irrigation ■ General Industry



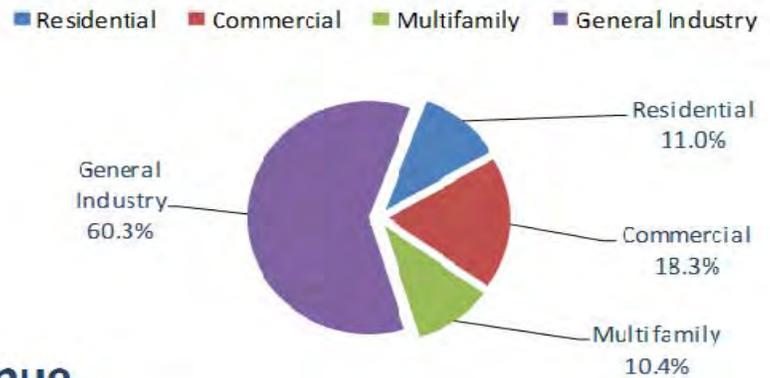
# Our Customers: Wastewater

General Industry continues to be the largest user of wastewater at **60.3%** of total wastewater usage and **60.8%** of total wastewater revenue. Commercial usage is the next highest with **18.3%** of usage and **18.1%** of wastewater revenue. **71.1%** of wastewater customers are residential, but their usage accounts for only **11%**. The revenue comparison is a slightly lower percentage at **9.8%** due to the fact that residential wastewater customers are billed at 85% of water readings for wastewater usage.

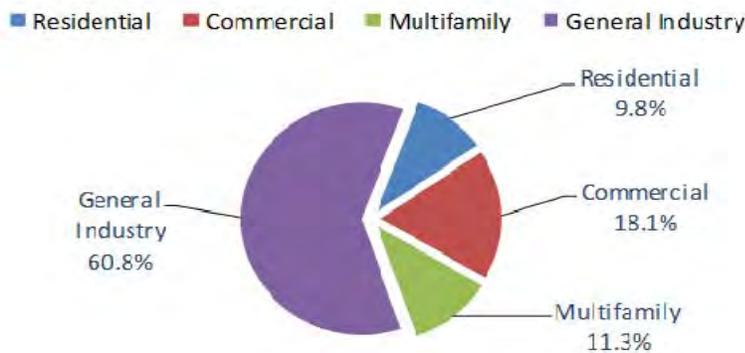
## Wastewater Customers



## Wastewater Use



## Wastewater Revenue



## **FINANCE & ADMINISTRATION**

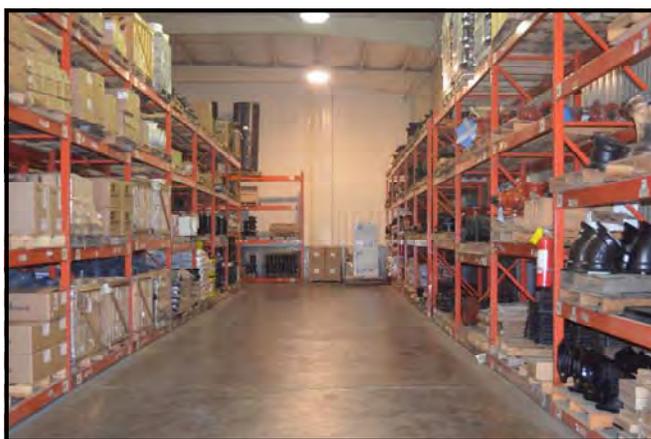
**MISSION STATEMENT:** *To provide a stable financial position and administrative support for daily operations.*

### **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 Advocates, Inventory Control, Payroll, Purchasing and Warehouse personnel.

The group is responsible for financial planning for the Five-Year Capital Improvements Program, 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.

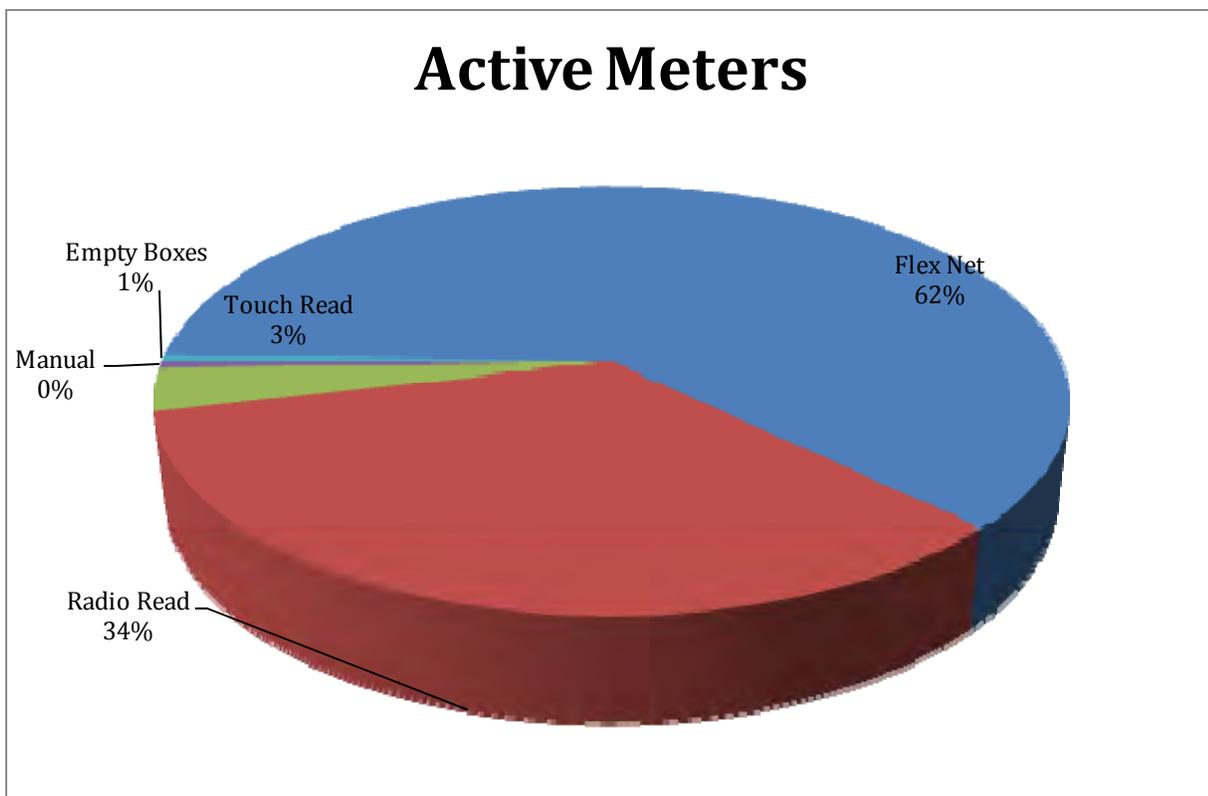
- Accounts Payable staff processed **6,200** invoices and **406** requisitions in FY13.
- Purchasing staff processed **417** requests for bids and proposals in FY13.
- The Warehouse staff reworked **716** meters in FY13



Meters and Supplies in the PUD warehouse

# Automated Metering: The Smart Choice

The City of Gainesville currently has over 50,000 meters installed throughout our system. Over 90% of these meters are now automated. With 62% of these meters being equipped with Flex Net technology, the result of the Automated Meter Reading Project, which will ultimately convert 38,000 meters to Flex Net technology. This technology allows the meters to be read remotely and readings transmitted through a database server to the utility. This enables staff to continuously view meter activity to monitor usage patterns and provide proactive leak detection. Customers are now notified of a suspected leak, saving them money and protecting our system from unnecessary water loss. The automated reading system also reduces the Utility's cost by decreasing amounts spent on fuel to manually read meters.



# FY 13 Financial Highlights

## CITY OF GAINESVILLE PUBLIC UTILITIES FUND

### SUMMARY FINANCIAL STATEMENT\*

For the twelve months ended June 30, 2013

% of Year Remaining = 0.00%

	Revised Budget	Jun-13 YTD Actual	Remaining Balance
<b>Revenues</b>			
Charges for services	60,688,310	57,641,544	3,046,766
Investment income	18,000	268,760	(250,760)
Contributions	-	4,016	(4,016)
Miscellaneous	173,000	179,341	(6,341)
Other financing sources/transfers in	1,500	(310,741)	312,241
Transfers from E&R (Connection Fees)	1,025,673	1,471,051	(445,378)
Intergovernmental	-	1,261,588	(1,261,588)
<b>Total Revenues</b>	<b>61,906,483</b>	<b>60,515,560</b>	<b>1,390,924</b>

<b>Expenses</b>			
Riverside Water Treatment Facility	2,954,746	2,374,965	579,781
Lakeside Water Treatment Facility	2,113,106	1,724,751	388,355
Water Distribution	3,864,722	2,852,156	1,012,566
Flat Creek Water Reclamation Facility	3,901,530	3,083,110	818,420
Linwood Water Reclamation Facility	2,682,864	2,244,349	438,515
Maintenance Services	2,943,258	2,230,868	712,390
Sanitary Sewer	1,993,158	1,686,262	306,896
Environmental Compliance and Permitting	1,429,718	1,216,053	213,665
Engineering and Construction Services	2,561,322	1,929,350	631,972
Customer Account Services	2,849,149	2,303,489	545,660
Finance and Administration	2,238,053	1,573,499	664,554
<b>Subtotal - Expenses</b>	<b>29,531,626</b>	<b>23,218,852</b>	<b>6,312,774</b>
Bad Debt Expense	-	3,592	(3,592)
Depreciation	-	14,653,820	(14,653,820)
Debt service	21,434,699	7,427,698	14,007,001
Transfer to E&R	-	-	-
Other financing uses/transfers out	11,030,124	4,478,952	6,551,172
<b>Total Expenses</b>	<b>61,996,449</b>	<b>49,782,914</b>	<b>12,213,535</b>

#### Excess (Deficiency) Revenues over

Expenses	(89,966)	<u>10,732,646</u>
Budgeted Fund Balance 6/30/12	<u>89,966</u>	
	<u>-</u>	

**\*UNAUDITED YEAR END NUMBERS**

# 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 pumping raw water from Lake Lanier, the treatment of that water to national drinking water standards at the Riverside and Lakeside Water Treatment Plants (WTP)s, and the distribution of the finished treated water into the system's water storage facilities.



The **Water Reclamation** group treats all of the collected wastewater to environmentally safe discharge standards by utilizing the treatment capacity made available at the Flat Creek and Linwood Water Reclamation Facilities (WRF)s.

The **Maintenance Services** group is responsible for maintaining all equipment located within the treatment plants, the operation and maintenance of sewer pump stations and potable water booster pump stations, while also providing grounds keeping services to miscellaneous areas of the Public Utilities Department, along with sewer right-of-way maintenance and inspections.



# **WATER TREATMENT**

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

## **SCOPE OF SERVICES**

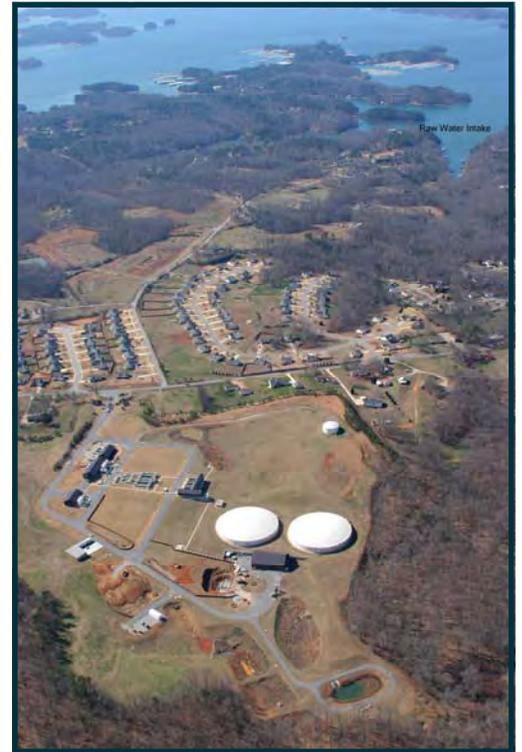
The **Water Treatment** group consists of two (2) Plant Managers, and twenty-eight (28) other staff members. This group is primarily responsible for the daily operations of the Riverside and Lakeside Water Treatment Plants (WTP)s and “finished” (i.e., treated) water storage facilities.

## **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.



**Riverside Water Treatment Plant**



**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 one 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 almost two days at current usage levels.

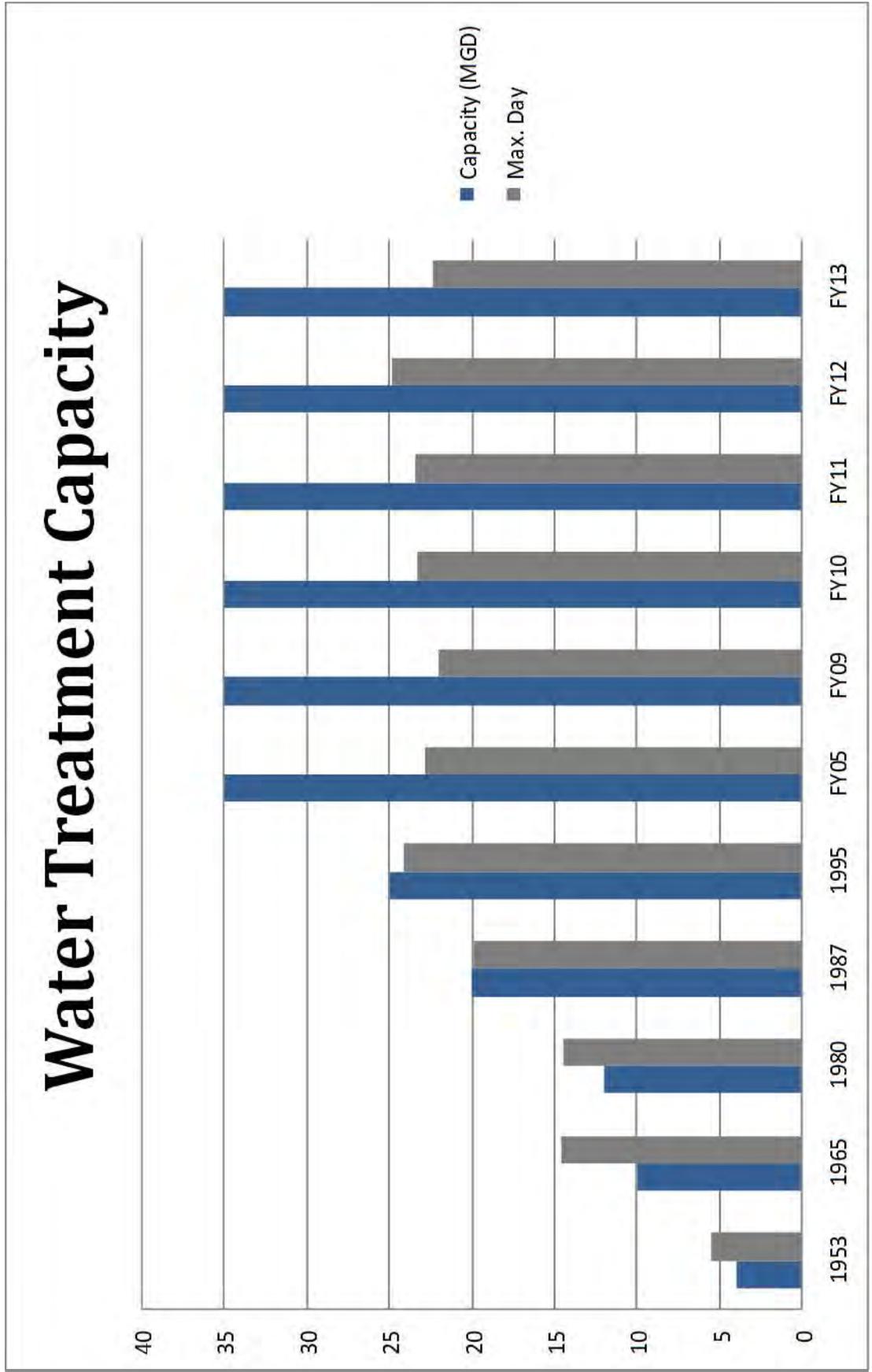
## Riverside and Lakeside Statistical Indicators

	FY10	FY11	FY12	FY13
<b>Filtering Capacity (MGD)</b>	35	35	35	35
<b>Filtering Permitted Capacity (MGD)</b>	35	35	35	35
<b>PERMITTED—Raw Water Withdrawal</b>				
<b>Maximum 24 Hour (MGD)</b>	35	35	35	35
<b>Monthly Average not to Exceed (MGD)</b>	30	30	30	30
<b>ACTUAL—Raw Water Withdrawal</b>				
<b>Maximum 24 Hour (MGD)</b>				
• Riverside	19.2	17.2	18.8	15.50
• Lakeside	9.8	10.3	10.3	10.23
<b>Monthly Average (MGD)</b>	19.2	18.9	18.2	17.20
<b>Total—Raw Water Withdrawal (MG)</b>	7,002.0	6,906.0	6,629.0	6,262.3
<b>Pumped To System</b>				
<b>Max Day (MG)</b>	23.3	23.5	24.9	22.35
<b>Average Day (MG)</b>	17.1	17.6	17.7	16.73
<b>TOTAL (MG)</b>	6,242.0	6,437.0	6,461.0	6,106.5
<b>Sludge Disposal (Tons)</b>	844	801	953	945



MGD = Million Gallons Per Day MG = Million Gallons

The following is a chart indicating the annual average treatment plant capacities of the facilities and the maximum day water treated.



# **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 to protect the water quality of Flat Creek and Lake Lanier. The group's facilities include the Flat Creek and Linwood Water Reclamation Facilities (WRF)s. The group is also responsible for the monitoring and polling of sixty (60) wastewater pump stations.

### **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.

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.



**Flat Creek WRF**

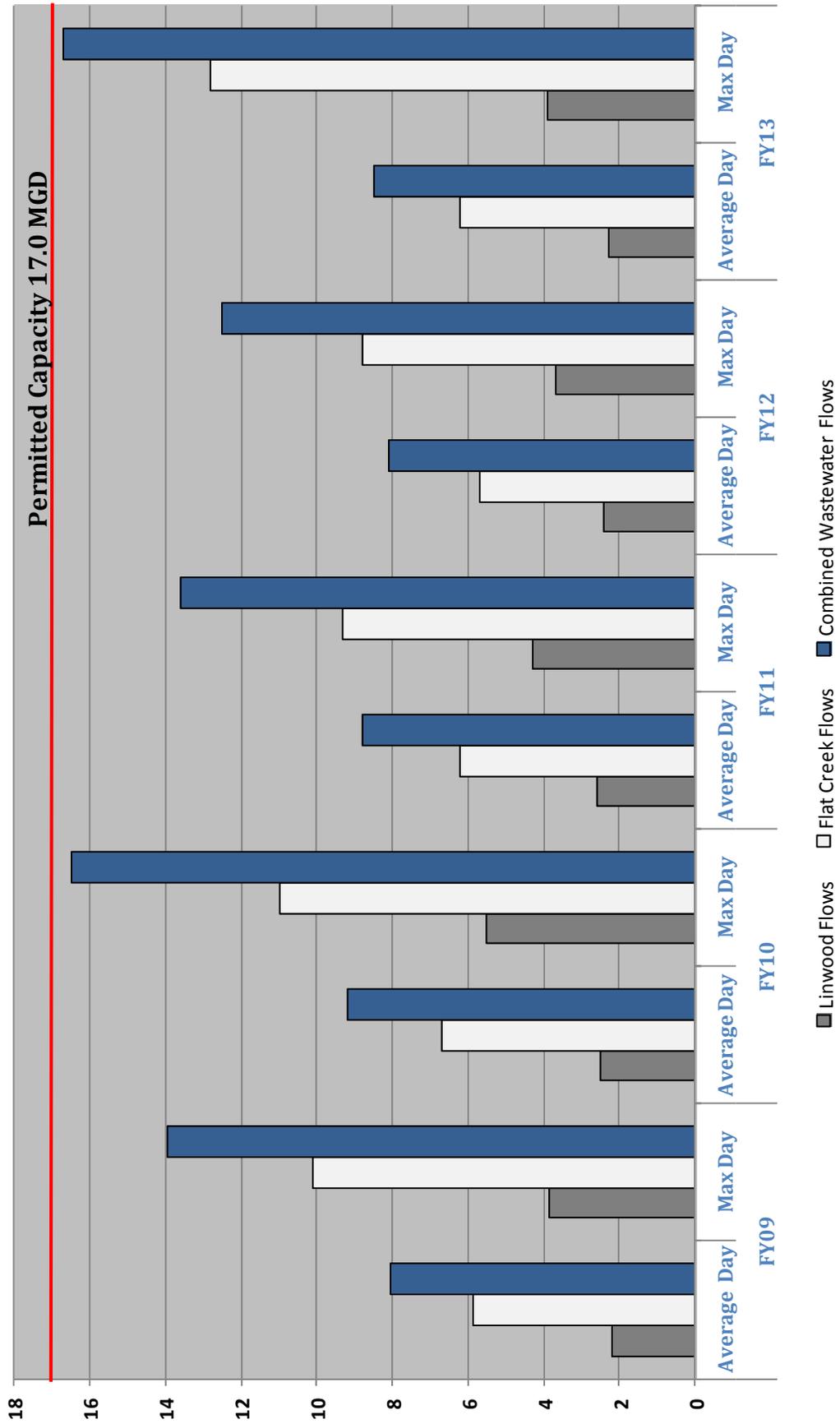


**Linwood WRF**

<b><u>Flat Creek Permitted Discharge Limits</u></b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>
Flat Creek Weekly Avg. not to exceed (MGD)	15	15	15	15
12Flat Creek Monthly Avg. not to exceed (MGD)	12	12	12	12
Flat Creek – Max. Day Flow (MG)	11.0	9.3	8.8	12.8
Flat Creek – Avg. Day Flow (MG)	6.7	6.2	5.7	6.2
Flat Creek – Total Treated (MG)	2,456	2,263	2,080	2,269
Flat Creek – Biosolids Disposal (Dry Tons)	2,380	2,457	2,451	2,485
<b><u>Linwood Permitted Discharge Limits</u></b>				
Linwood Weekly Avg. not to exceed (MGD)	6.25	6.25	6.25	6.25
Linwood Monthly Avg. not to exceed (MGD)	5	5	5	5
Linwood – Max. Day Flow (MG)	5.5	4.3	3.7	3.9
Linwood – Avg. Day Flow (MG)	2.5	2.6	2.4	2.3
Linwood – Total Treated (MG)	910	949	876	836
Linwood – Biosolids Disposal (Dry Tons)	467	359	391	391
<b>Combined Facility Total Treated (MG) -----</b>	<b>3,366</b>	<b>3,212</b>	<b>2,956</b>	<b>3,105</b>
<b>Combined Total Biosolids Removal (Tons) -----</b>	<b>2,847</b>	<b>2,816</b>	<b>2,842</b>	<b>2,876</b>



# Fiscal Year Wastewater Flows (2009-2013)



# 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 2013:

## Flat Creek

Due to an increase of 8.2% in the amount of water treated for this fiscal year, our chemical expense has increased by 14% compared to last year. However, by sticking with our strategy of producing the best quality of water at the most economical price, we were still 16% lower than our projected FY13 chemical budget.

Moreover, comprehensive case studies on chemical usage were completed this fiscal year in an attempt to compare chemical cost between synthetically produced products versus a natural mineral produced product. This was to try to level the playing field in the bidding for chemical contracts when one product costs more than the other, but performs better and is more effective.

Power consumption in annual total kWh usage increased by 2% compared to FY12, but due to strenuous conservation practices, energy expense was decreased by 7% compared to last year resulting in a savings of over \$50,000.00. These savings were accomplished by using our Tertiary Sand Filters less than 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 average pricing, flow was held in the equalization basin to drop flow to 4 MGD or less resulting in less equipment in operation, and a reduction in the cost as compared to energy during peak hours.

## Linwood

Although most chemical costs were up from the range of 13% to 53%, our overall chemical expense for FY13 was down 11% from last year. This is due to our annual bidding process and process control by the staff. In addition, the price of Alum dropped, resulting in a 48% decrease in cost compared to last year, a savings of \$98,000.

The Linwood WRF has plans to perform a case study on the efficiency of the use of Sodium Aluminate in place of Alum for phosphorus removal, in an attempt to decrease the use of Caustic used to accommodate in the removal of ammonia. Our goal is to always produce the highest quality of water at the most economical price.

Power consumption as measurable annual total kWh usage increased by 0.8% compared to FY12 but, due to strenuous conservation practices, energy expense was decreased by 9% compared to last year, resulting in a savings of over \$40,000.00. These savings were accomplished by utilizing the equalization basin to decrease plan flow during peak hours to limit the use of membranes to two trains. Additional computer programming was utilized to allow more efficient use of high horse-power motors, and the constant monitoring of operations by staff was effective.

# **MAINTENANCE SERVICES**

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

## **SCOPE OF SERVICES**

The Maintenance Services Division consists of a **Maintenance Manager** with three (3) sections: **Maintenance**, **Pump Stations**, and **Grounds Maintenance** - a total of twenty-five (25) positions. The **Maintenance** section consists of Maintenance crews that 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** section monitors and maintains the 60+ water and sewer pump stations throughout the City of Gainesville and Hall County. The **Grounds Crew** section are responsible for grounds maintenance at the Public Utilities treatment plants, water tanks, pump stations, and 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.



### **FY 13 Statistical Indicators:**

- **Total Repair Work Orders = 734**
- **Total PM Work Orders = 2,058**
- **After Hours Emergency Calls = 100**

# ENVIRONMENTAL COMPLIANCE

The **Environmental Compliance group** is responsible for the city's water quality laboratory, the industrial pretreatment program, commercial wastewater management, environmental monitoring program, forestry management, public education program, water conservation program and various other projects and programs as assigned. The Environmental Compliance offices and staff are located in the Environmental Services Laboratory at 2641 Old Flowery Branch Road, Gainesville, GA 30504.

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

## SCOPE OF SERVICES

The **Environmental Compliance** staff consists of a total of **15** authorized positions working in five 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, and provide for the protection and improvement of the community's water resources. The staff also endeavors to efficiently assist and educate residential and commercial customers, as well as the general public.

The **Environmental Compliance** group manages the City's Water Quality Laboratory, Industrial Pretreatment Program, Environmental Monitoring Program, Water Conservation Program, and various other projects and programs as necessary to provide support for the PUD. **The Following is a summary of responsibilities for this group:**

- 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.



- A. City of Gainesville Laboratory staff measuring for total phosphorous from a sample that was brought into the lab**
- B. BOD (Biological Oxygen Demand) is tested in samples from Flat Creek Wastewater Reclamation Facility**
- C. Winkler Titration is performed on a sample to get it ready for the BOD test.**

- 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 System (MS4) Notice of Intent (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 collects a quarterly water sample from Cedar Creek Reservoir**



**B. A 7th grade East Hall Middle School student reads a conductivity meter during a trip to the stream**



**C. Students learn how to identify bugs (macro invertebrates) at West Hall Middle School's Environmental Fest**

<b>Environmental Compliance FY13 Statistical Indicators</b>	
# of Lab Samples Analyzed	<b>8,822</b>
Total Analyses Conducted by Lab Services	<b>32,813</b>
Drinking Water/New Line Samples	<b>1,855</b>
Pretreatment Program Compliance Inspections	<b>2,781</b>
Environmental Site Inspections	<b>3,254</b>
Environmental Samples	<b>978</b>
Public Presentations	<b>274</b>

- \* In addition to the formal annual inspections, an additional **2,781** 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 **288** 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 FY13 included the inspection and permitting of **51** commercial waste transportation vehicles.
- \* 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 System (MS4) Notice of Intent (NOI) and the requirements for pollution prevention Best Management Procedures at municipal facilities involved in industrial activity such as transportation shops and the airport. The result has been more time spent in public outreach (such as employee pollution prevention education, the Adopt-A-Stream program and water conservation education). During FY13, staff inspected **3,254** sites for environmental issues and collected **978** 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 FY13, **274** presentations were conducted.



**Conservation Crusader**

**"Don't forget to become a Conservation Crusader and do your part to save water for**

## Water Efficiency

The City of 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 1.28 gpf (gallon per flush) toilets. **376** Retrofit Rebates were issued in FY13. This fiscal year, the program was expanded to include multi-family and commercial properties. Numerous properties have taken advantage of the new rebate program. Residents also attended the **Rain Collection Workshops** to construct water-saving rain barrels. **80** rain barrels were distributed in FY13. Several City of Gainesville residents also participated in the free residential water assessments to help locate leaks and possibly save money by learning about water saving opportunities in their homes. Classroom presentations for all ages are still the “backbone” for spreading the water efficiency message. Staff work at the request of teachers to present water conserving measures all can become involved in. The rain barrel decorating contest had approximately 180 students participate from 6 schools. In addition to being displayed at the Frances Meadows Center in April, they are shown off and the winners announced at the Spring Chicken Festival Parade.



The six main barrels that were judged for the decorating contest. In total 34 barrels were decorated by 180 students



Rain Barrels are decorated during Water Fest, held in Longwood Park.



Rain barrel contest participants from East Hall Wiki Green Club who designed the Bait Crate.



The 2013 contest winners were Chestatee High School and Chestatee Academy (Middle) School

# Community Education and Involvement

Community education and involvement are an integral part of raising awareness and ensuring sustainability of our natural resources. In FY13, the City of Gainesville conducted **274** public presentations. These ranged from elementary schools to adult trainings for watershed protection and opportunities for volunteer involvement.

Classes continue to enjoy Adopt-A-Stream training for chemical and biological monitoring. **212** individuals participated in this years Rivers Alive clean up. While one of the most challenging in quite some time, the event was very successful with **2,700** pounds of trash removed from Flat Creek Cove. Environmental Fest was conducted with West Hall Middle School's 6th grade. Students rotated through 13 different hands-on stations to learn all about water, recycling and turning plastic into fuel.

Lola the Water Waster was introduced as a new character. She has a tendency to waste water because she loves it too much. Conservation Crusader is usually close by to try to set her straight. The Conservation Crusader participated in the inaugural Water Drop Dash and education fair held in Roswell along the Chattahoochee River.



- A. A West Hall Middle School student participates in a relay during Environmental Fest
- B. Chestatee High School students participating in the Rivers Alive Cleanup
- C. Lola the Water Waster and Conservation Crusader visit an elementary school
- D. Conservation Crusader celebrates as he finished the Water Drop Dash
- E. While being certified, East Hall Middle School Students work to determine the pH of a stream

# ENGINEERING AND CONSTRUCTION SERVICES DIVISION

The Engineering and Construction Services Division began the fiscal year with 24 full-time and 1 part-time authorized positions. These positions may be broadly categorized as engineers, technicians, inspectors, permitting staff, and support staff.

**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, review and permitting of private development projects, and administration of the Backflow Prevention Program. 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 for other local governments when required by intergovernmental agreement.
- 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 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
  - ◇ Coordination, preparation and updating of the Department Comprehensive Financial Model (CFM) as well as management of other relevant rate and financial studies.
  - ◇ 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



The **Permitting** group provides management of private development permitting and the **Backflow Prevention Program**. The Permitting group also provides assistance 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 ensure 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 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.

**Backflow:**

- 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 notifications 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, maintaining and repairing existing backflow preventers on City facilities.
- Fire hydrant flow testing.



## 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 FY13:

- Provided project management and construction management / resident engineering services on **14** capital improvement projects that were completed in FY13 and **25** on-going capital improvement projects for the Gainesville's Public Utilities Department, Public Works Department, Administrative Services, 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 **3.51** miles of water main and **30** fire hydrants. These figures include capital improvement projects, private water development mains, private fire mains and private fire hydrants.
  2. Approximately **0.09** miles of gravity sanitary sewer and **2** new manholes.
- Collected GPS coordinates for approximately **568** water meters, **10** sanitary sewer manholes, **864** fire hydrants, and **254** valves.
- Completed Scanning, drawing and linking **895** easements.
- Completed scanning of approximately **2,373** plan sheets and 46 valve cards.
- Created approximately **35** graphical exhibits including the PUD's presentation for the annual **Citizen's Government Academy** and the **Workshop with the City Council**.

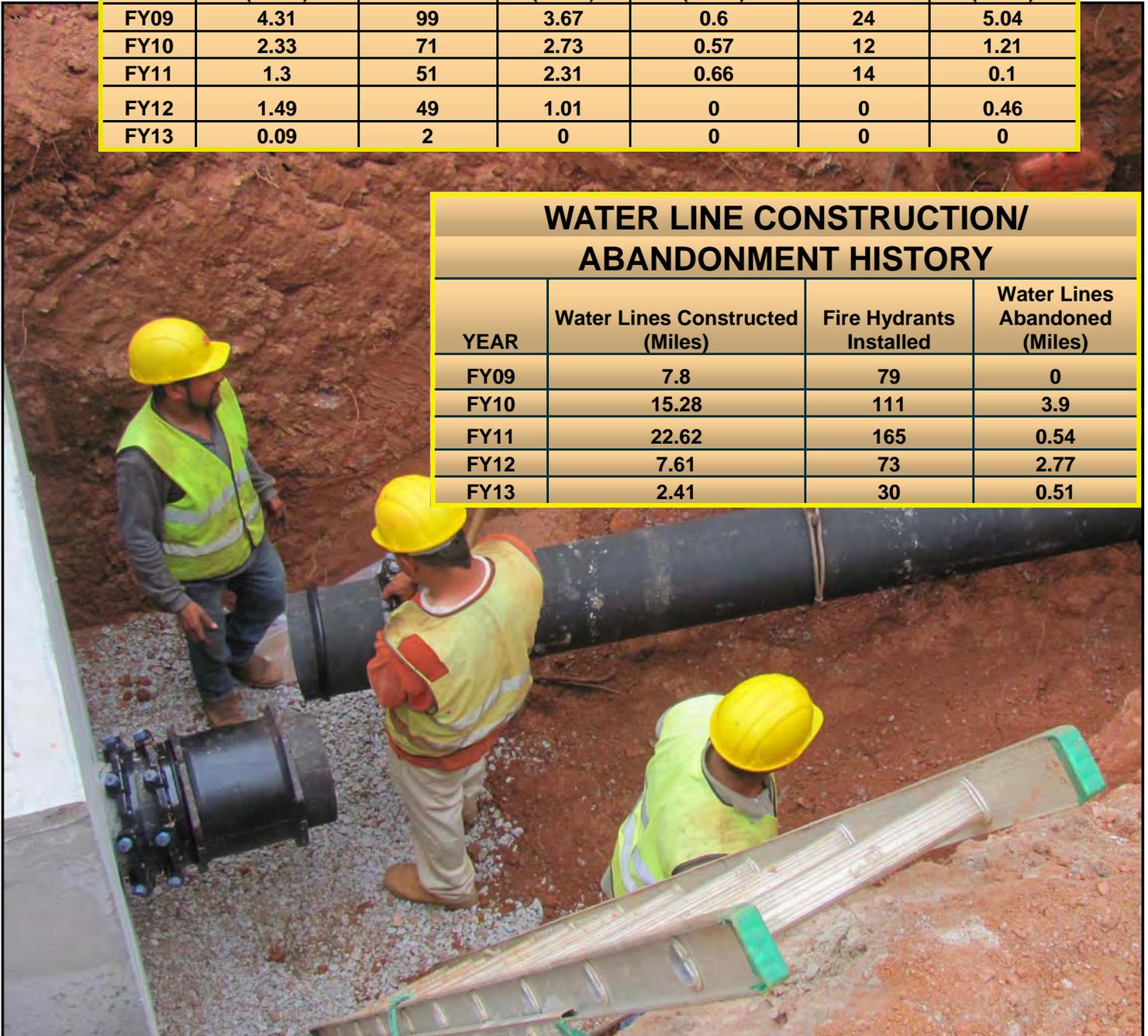


Pressure reducing valve at Hog Mountain Road elevated storage tank

# FY 2013 Water Main and Sanitary Sewer Construction and Abandonment History

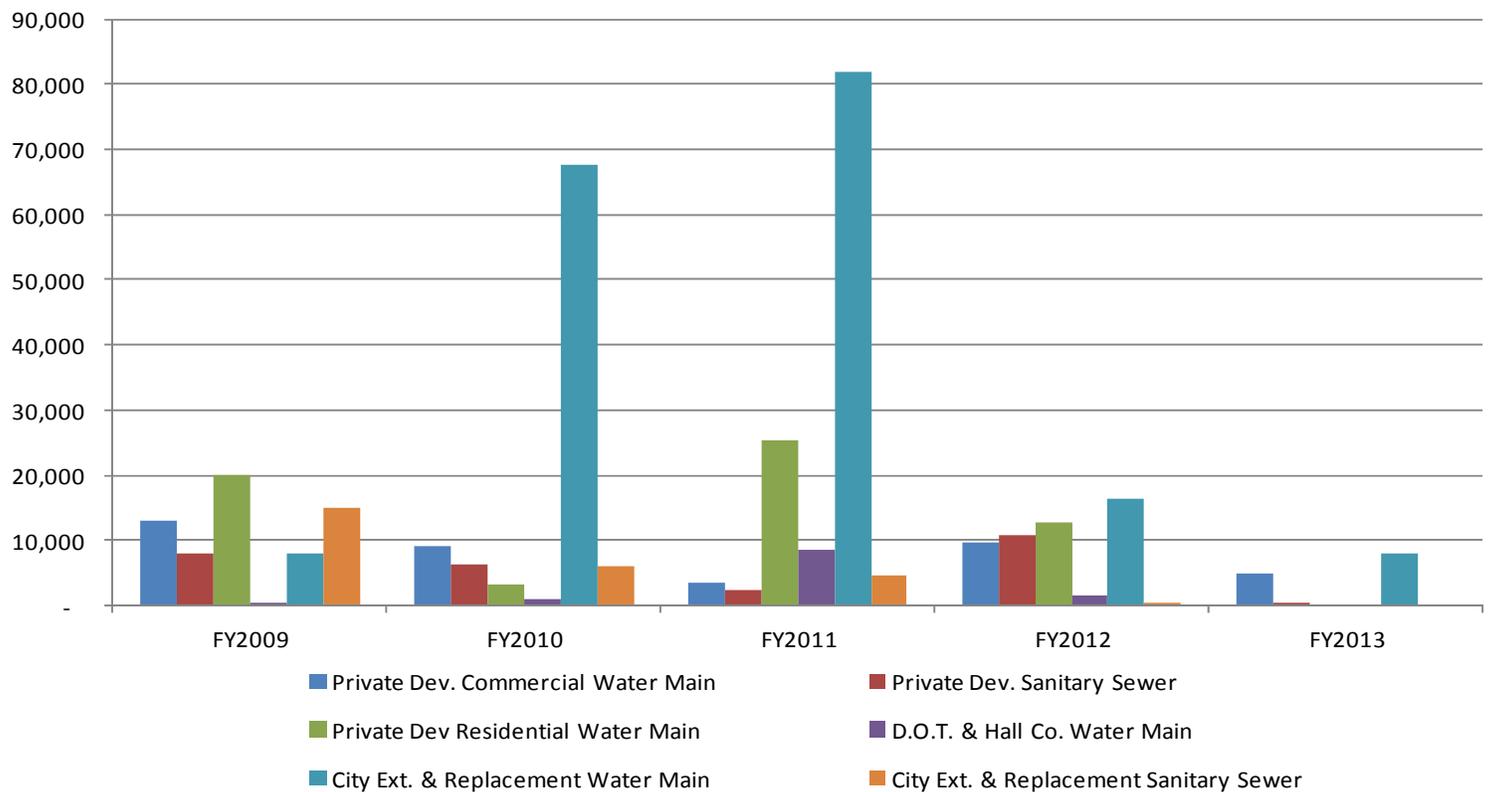
<b>SANITARY SEWER CONSTRUCTION/ABANDONMENT HISTORY</b>						
<b>YEAR</b>	<b>Gravity Sewers Constructed (Miles)</b>	<b>Manholes Constructed</b>	<b>Force Main Constructed (Miles)</b>	<b>Gravity Sewers Abandoned (Miles)</b>	<b>Manholes Abandoned</b>	<b>Force Main Abandoned (Miles)</b>
FY09	4.31	99	3.67	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
FY12	1.49	49	1.01	0	0	0.46
FY13	0.09	2	0	0	0	0

<b>WATER LINE CONSTRUCTION/ABANDONMENT HISTORY</b>			
<b>YEAR</b>	<b>Water Lines Constructed (Miles)</b>	<b>Fire Hydrants Installed</b>	<b>Water Lines Abandoned (Miles)</b>
FY09	7.8	79	0
FY10	15.28	111	3.9
FY11	22.62	165	0.54
FY12	7.61	73	2.77
FY13	2.41	30	0.51



	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TYPE OF INSTALLATION	TOTAL FT.				
PRIVATE DEV. COMMERCIAL WATER MAIN	13,021	9,017	3,590	9,741	4,872
PRIVATE DEV. SANITARY SEWER	7,857	6,335	2,323	10,725	485
PRIVATE DEV. RESIDENTIAL WATER MAIN	19,959	3,165	25,405	12,720	0
D.O.T. & HALL CO. WATER MAIN	200	862	8,615	1,415	0
CITY EXT. & REPLACEMENT WATER MAIN	8,016	67,650	81,828	16,289	7,829
CITY EXT. & REPLACEMENT SANITARY SEWER	14,869	5,980	4,540	530	0

**Installed Water and Sewer Mains by Fiscal Year**



## **Permitting FY13 Statistical Indicators**

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

- Reviewed **112** development plans and issued **74** development permits through City of Gainesville/ Hall County Planning & Zoning Department.
- Reviewed **165** architectural drawings and **19** fire sprinkler system drawings.
- Reviewed and approved **150** proposed water service connections through the plan review and permitting process.
- Reviewed and approved **4** City of Oakwood, **0** Town of Braselton, **2** Flowery Branch and **2** City of Buford developments through direct permitting coordination with these jurisdictions.
- Reviewed **936** commercial building permits (**916** in Hall County and Gainesville and **20** in Oakwood).
- Reviewed **12** applications for rezoning, variances, or annexations through the City of Gainesville's Planning and Appeals Board.
- Reviewed **49** applications for variances, conditional use, proposed amendments or rezonings through the Hall County Planning Commission.
- Forwarded **22** new construction projects to the Engineering and Construction Services Division. These projects required water and/or sanitary sewer construction inspections.
- Collected a total of **\$67,793.89** for water and sanitary sewer inspection fees that were performed by the Construction Management Division personnel and for fire hydrant flow testing.
- Conducted **47** backflow preventer inspections, of which **35** were approved through the Certificate of Occupancy (CO) issuance program and **12** were approved through mail-out program.
- Received and logged **6,161** backflow preventer test reports.
- Issued **3** variances for backflow preventer installation locations.
- Issued **5,180** first, second, and third notices to existing customers with overdue or failed annual backflow prevention device test reports, and issued **390** notices to device testers to provide up-to-date calibration and certifications.
- Conducted **12** fire hydrant flow tests for proposed private developments.
- **152** City backflow devices were tested, **4** new backflow devices were installed, and **8** existing devices were repaired.

## Projects **COMPLETED** during FY13 are as follows

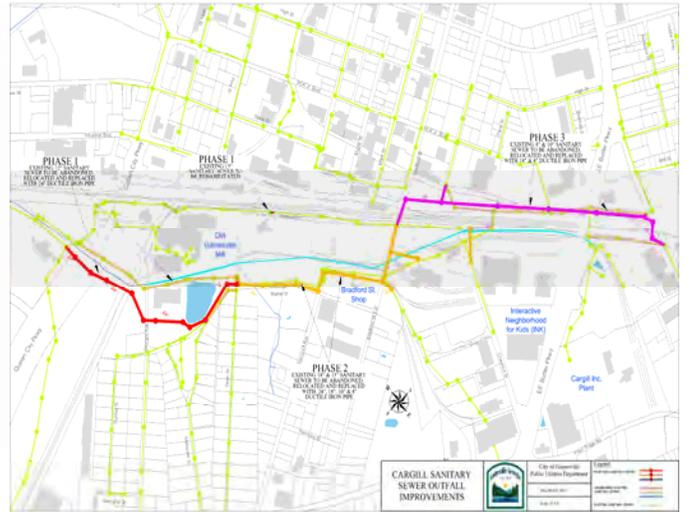
- 1) FY13 Automated Meter Reading Project.
- 2) FY13 Water Meter Replacement Project.
- 3) FY13 Water Service Connections.
- 4) FY11 Water Treatment and Water Reclamation Facilities Maintenance Project.
- 5) Cedar Creek Water Treatment Plant Transmission Main Improvements-Phase I.
- 6) State Route 52 Booster Pump Station—Design Phase.
- 7) FY12 Transmission Main Improvements Project.
- 8) Organized, managed and completed all activities associated with the Department's Annual Workshop presentation for the City Council.
- 9) PUD Land Acquisitions Project.
- 10) Riverside Drive Water Treatment Plant Clearwell Repair Project.
- 11) Riverside Drive Water Treatment Plant Chemical Systems Evaluation Report.
- 12) Water Main Relocation at State Route 52 and Candler Creek Project.
- 13) Lee Gilmer Memorial Airport Hangar Renovation Project.
- 14) Cedar Creek Reservoir Dam Inspection and Repairs.



**ACTIVE** projects managed during FY13 but carried forward are as follows

- 1) Cargill Sanitary Sewer Improvements Project-Phase I.
- 2) GEFA Year 23—Contract II Sanitary Sewer Replacements/Rehabilitation Project.
- 3) Pump Station No. 23 Improvements Project.
- 4) Water Distribution System Storage Tanks Maintenance Program.
- 5) Telemetry Systems Improvement Project.
- 6) FY13 Water Treatment and Water Reclamation Facilities Maintenance Project.
- 7) Mulberry Creek Regional Sewerage Facilities.
- 8) State Route 347/Friendship (Lanier Islands Parkway) and Thompsons Mill Road Utilities Relocation Project.
- 9) State Route 284/Clarks Bridge Replacement Utilities Relocation.
- 10) Evaluation and Design of Raw Water Metering at Riverside Drive and Lakeside Water Treatment Plants.
- 11) Flat Creek Stream Restoration and Cargill Stream Restoration Design Project.
- 12) Linwood Water Reclamation Facility Discharge Pipe Easement from U.S. Army Corps of Engineers.
- 13) Riverside Drive Water Treatment Plant Chemical System Evaluation and Upgrade.
- 14) Cedar Creek Reservoir Dam Inspection and Repairs.
- 15) Hancock Avenue Dry Storage Buildings for Distribution and Collection Division.
- 16) Carehere Health Clinic Renovations Project.
- 17) Green Street Pool Demolition.
- 18) Wessell Park Tennis/Basketball Courts Renovations.
- 19) City of Gainesville Administration Building Renovations.
- 20) City View Center Elevated Pedestrian Walkway.
- 21) State Route 365/Hall County Sanitary Sewer Service Proposal.
- 22) Sanitary Sewer Relocation at Milliken/Limestone Parkway Property.
- 23) Sanitary Sewer Extension at Milton Martin Honda.
- 24) Roy Parks Road/Creek Crossing Water Main Relocation.
- 25) Flat Creek Water Reclamation Facility Sludge Digester Repair.





### **Water Quality/Flat Creek Stream Restoration Project**

The City of Gainesville is continuing efforts to improve water quality of Gainesville’s primary drinking water source by performing stream

restoration projects along tributaries of Lake Lanier. Design of phase 2 of the Flat Creek Stream Restoration project was begun in FY 2013 which includes restoring approximately 2,000 linear feet of stream and

reconstruction of an existing storm water fire pond to be utilized as a regional storm water detention facility. This project is located between Georgia Avenue and Athens Highway on property mostly owned by the City of Gainesville. Once completed, the storm water detention facility will be accessible to the public with pedestrian walkways similar to the recently completed storm water facility located at the intersection of Pine Street and High Street. This project is being performed in conjunction with the Cargill Sanitary Sewer Outfall Improvements project which replaces aging sewer lines within the same area.

Construction is currently scheduled for completion in calendar year 2014.



# 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 ensure ready access.

## 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 **8,735** fire hydrants in the water distribution system. Each fire hydrant is inspected annually with the assistance of the local fire departments. In FY13, **229** fire hydrants were repaired, serviced, or replaced in order to ensure fire protection for our community. **3,258** water valves were inspected in FY13 and **2,018** were repaired, raised, or serviced.

Determining the location of utilities is another function the Division performs related to water distribution. In FY13, a total of **12,210** 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.

# Water Loss Prevention

Dry conditions and population growth place a strain on our water resources, creating the urgent need for water efficiency and conservation. Each year, utilities lose large volumes of treated water through inefficiencies in the supply process. Water loss control is vital in order to reduce the burden on existing water resources, increase the reliability of our water supply, and keep water rates low for customers. The City of Gainesville uses a hands-on, proactive approach to combat water loss in our system. The City's proactive leak detection efforts save the Utility thousands of dollars annually (see chart below). Since its implementation 3 years ago, a data logging system allows the City to locate hard-to-find leaks. The system uses sophisticated software to record and download sounds into files for analysis. The software evaluates the sounds and produces graphical and tabular results, informing us where the leak is, if one exists.

Leaks are repaired quickly (most within 24 hours of notification) and proficiently (with use of standard repair methods and materials). The utility also continuously replaces pipes to improve the integrity of the distribution system and reduce leaks.

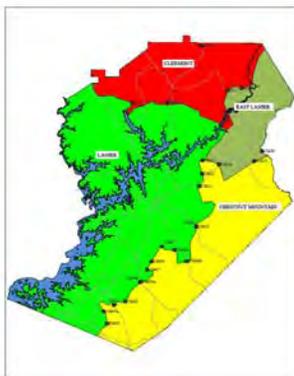


Public Utilities employee Chris Gravitt prepares to perform a leak detection survey with data logger equipment.

YEAR	#of Leaks Found	Gallons Recorded/Recovered	Miles Surveyed/Logged**	Production Costs Savings*
2010	7	1,260,160	16.5	\$2,696.40
2011	27	16,910,000	28.0	\$36,187.40
2012	26	20,626,061	200.0	\$44,139.64

\* \$44,139.64 in production cost saved based on the cost of \$2.14 dollars for producing the "next thousand gallons" of treated water.

\*\* Estimated numbers of miles.



The City of Gainesville's 4 Pressure Zones

Pressure management is another important tool in water loss control. The City of Gainesville's Water System has 4 pressure zones and over 20 Pressure Control Valves that help maintain desired pressures for fire protection while easing strain on water mains and reducing water loss from leaks.

Water theft is a source of water loss that also impacts our water supply. To combat unauthorized use, the City of Gainesville has over 500 fire hydrant locks in place to prevent theft. Weekly reports and investigations are also conducted to locate unauthorized consumption via water meters at locations in which no one is currently signed up to receive service. In addition, the City has developed policies to deter and identify meter tampering.



A locked fire hydrant

# Water Loss Audit



In 2010, the **Georgia Water Stewardship Act** was established to encourage and improve water conservation to enhance Georgia's water supply. The Act requires that all Georgia public water systems serving 10,000 or more people complete an annual water loss audit, beginning in 2012. The City of Gainesville Public Utilities Department submitted its second Water Loss Audit to the GAEPD in FY 2013. The Distribution Division spearheaded the audit, with the assistance of a team of staff members from various divisions. The audit is an examination of records and financial accounts to check for accuracy and provide accountability. The assessment's purpose is to identify areas and causes of water loss, to improve water efficiency within the state's public water systems, and to serve as a catalyst for creating a culture of water conservation among water managers.

Gainesville Public Utilities scored a **73** out of **100** on the audit, which is considered a slightly above average score in the State of Georgia. The Utilities Infrastructure Leakage Index (ILI) is a very important benchmark for water system planning and can be used as a target-setting mechanism. It was established in FY13 at **1.76**. The ILI is unique to each water system, but is a very important leak reduction target number when considering water resource availability, financial goals, and other operational considerations of Gainesville's water system.

A copy of this year's Water Audit is available upon request.

## WATER AUDIT DATA VALIDITY SCORE:

**\*\*\* YOUR SCORE IS: 73 out of 100 \*\*\***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

## PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

**1: Volume from own sources**

**2: Master meter error adjustment**

**3: Unbilled metered**

[For more information, click here to see the Grading Matrix worksheet](#)

# Public Utilities Vehicle Maintenance



In November of 2012, renovations and improvements were completed at the Marler Street Public Utilities Vehicle Maintenance Facility. The 2.1 acre property had been purchased in 2010 with the intent of providing additional space for Public Utilities maintenance operations. An existing 4,900 square foot building on the property was renovated in the late summer and early fall of 2012. The improvements included several components such as installing new overhead garage doors, electrical and lighting upgrades, painting, site improvements, and office space improvements. A portion of the renovations and improvements were conducted by PUD staff in order to lower costs of the improvements. Likewise, a new drive-on industrial vehicle lift was installed to accommodate larger vehicle repairs. These improvements provided much needed additional space for the vehicle maintenance staff to conduct repairs and store parts. This facility will meet the needs of the vehicle maintenance operations for many years to come.



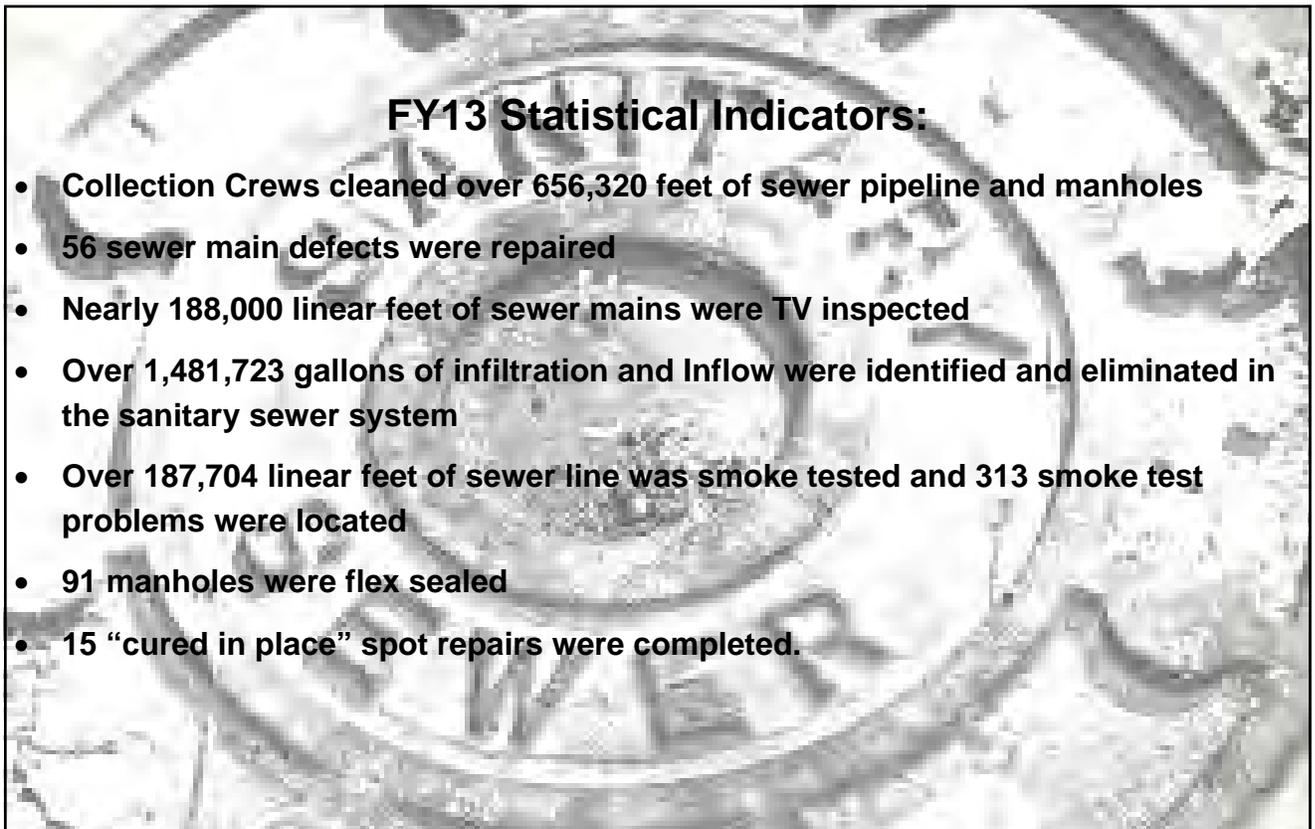
# WASTEWATER COLLECTION

**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 ensuring that the collection system is operating properly. One major preventative maintenance function of the Utility is cleaning sanitary sewer collection pipelines. These efforts greatly reduce 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 ground-water and rainwater 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.



**FY13 Statistical Indicators:**

- **Collection Crews cleaned over 656,320 feet of sewer pipeline and manholes**
- **56 sewer main defects were repaired**
- **Nearly 188,000 linear feet of sewer mains were TV inspected**
- **Over 1,481,723 gallons of infiltration and Inflow were identified and eliminated in the sanitary sewer system**
- **Over 187,704 linear feet of sewer line was smoke tested and 313 smoke test problems were located**
- **91 manholes were flex sealed**
- **15 “cured in place” spot repairs were completed.**



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