

CITY OF ATLANTA PARTNERS WITH P²AD TO HELP WATER CUSTOMERS SAVE MONEY

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Abstract. Atlanta joined forces with the Pollution Prevention Assistance Division (P²AD) to assist businesses and institutions in reducing the financial impact of increased water and sewer rates. As a result of P²AD's water efficiency assistance, Delta Airlines' plating shop is saving an estimated 14.4 million gallons and \$510,000 per year, a 55 percent reduction in water use. P²AD recommended water efficiency measures for the Atlanta City Detention Center that could save an estimated 12 million gallons and \$170,000 per year, a 41 percent reduction in water use. Similarly, water conservation measures at Lenox Woods Apartments could save an estimated 4 million gallons of water and \$68,000 per year, a 44 percent reduction in water use.

BACKGROUND

The Atlanta City Council unanimously approved a water and sewer rate increase, effective January 9, 2004. The rate increase enables the continued success of Clean Water Atlanta by providing adequate funding for the City to meet its legal and environmental clean water obligations. As a result of this increase, large water users faced a 50% increase in their water and sewer bills. Atlanta partnered with P²AD in 2004 to reduce the financial impact of the increased water and sewer rates on its largest water customers.

In addition to helping water customers save money, reducing water use benefits the City and State by expanding the life of existing water supplies, minimizing the impact of drought, reducing capital costs by postponing or avoiding water and sewer infrastructure expansions, and increasing the amount of water in streams, rivers and aquifers.

PROJECT APPROACH

P²AD and the City contacted top water users in March 2004. The top 25 water customers used approximately 1.97 billion gallons of water from February 2003 to January 2004. With the 2004 increase in water rates,

these top water users collectively pay approximately 18 million dollars per year for water and sewer service. They include six manufacturers, four hotels, four transportation facilities, four multi-family housing complexes, two hospitals, two prisons, one office complex, one conference center, and one retail property.

P²AD and the City sent letters to these top water users offering free water efficiency assistance. The facility was eligible for this assistance if a manager at their facility signed a form stating that they committed to providing the resources necessary to develop a water conservation program including:

- Forming a water efficiency team of employees
- Supplying necessary data to perform a water audit
- Implementing economically attractive water efficiency measures

Five of the twenty-five water users returned the form. Before P²AD would provide onsite assistance, the facility was required to fill out a water audit questionnaire including water usage data, facility information, plumbing fixture and water-using equipment inventory. This questionnaire was used both to prepare for the onsite water audit and gauge the facility's commitment to dedicating resources toward the water conservation program. Three of the five facilities returned the water audit questionnaires. Two of the three facilities decided to delay the water audit until 2005 due to staffing issues at the facilities.

In 2004, P²AD performed a water audit at the one facility, Lenox Woods Apartments, which returned the questionnaire and was ready to start developing a water conservation program. Surprisingly, Lenox Woods Apartments is not one of the top water users in the City of Atlanta. Since they have a similar name to one of the top water users, they were accidentally sent the letter offering free water efficiency services, yet Lenox Woods Apartments has shown a great commitment to conserving water.

P²AD also worked with the Atlanta City Detention Center and Delta Airlines' plating shop. The detention

center is one of the City facilities' largest top water users. Their commitment to reduce water use at the detention center demonstrates the City's leadership by example. When this project initiated, P²AD was already working with one of the City's top water users, Delta Air Lines. Results of water audits at the Atlanta City Detention Center, Lenox Woods Apartments, and Delta Airlines' plating shop are summarized herein.

DELTA AIR LINES

P²AD started working with the Department 275 Plating Shop at Delta Airlines' Technical Operations in 2003. The plating shop strips and re-plates aircraft parts. As a result of P²AD's assistance, the plating shop reduced its water usage by 55 percent, saving Delta an estimated \$510,000 per year. More details can be found in a separate article on Delta's water conservation program in these proceedings.

ATLANTA CITY DETENTION CENTER

The Atlanta City Detention Center is an eight-story building that houses approximately 1,000 inmates. P²AD identified five water management recommendations that are calculated to save almost 12 million gallons of water (over 40% of reported 2002 usage) and \$170,000 in water, sewer, and energy costs annually. If all recommendations were implemented, the up-front capital outlay would be approximately \$120,000, resulting in a simple payback of 0.71 years (about 8.5 months). Money-saving recommendations include the following:

1. Retrofit showers with metered valves to control shower water use.
2. Install aerators on kitchen faucets used for food preparation.
3. Replace the water-cooled ice machine with an air-cooled ice machine.
4. Retrofit the washer-extractors with the manufacturer's water re-use system.
5. Install a spring-loading nozzle on the hose used to clean the floors in the dishwasher room.

LENOX WOODS APARTMENTS

Lenox Woods Apartments is owned by FifeCo Properties and includes 151 apartments. P²AD identified water efficiency measures that could save an estimated 4 million gallons of water and \$68,000 per year. This number represents over 44 percent of overall water usage at Lenox Woods. The simple payback for the water efficiency measures ranged from two months for installation of faucet aerators to four years for installation of Energy Star dishwashers.

The apartment complex includes buildings constructed in 1968 and 1996. Most of the water efficiency opportunities were identified in the older buildings. Over 50 percent of the water savings could be achieved by reducing a large amount of water loss in the lines supplying the apartments. The remaining 50 percent could be achieved through sub-metering each apartment and billing tenants for water based on usage, replacing plumbing fixtures, implementing a tenant and employee education program, and installing water-efficient washing machines and dishwashers.

CONCLUSIONS

Water utilities can reduce the amount of resources needed for a commercial water audit program and increase the likelihood of water savings by offering water audits to the largest water users and requiring information from the facilities before assistance is provided.

Based on the results of this project and P²AD's work with other businesses and institutions, water audits can typically identify 20 – 60% reductions in water usage. Associated cost savings for the water users can include reductions in water, sewer, electricity, natural gas, and wastewater treatment costs. Simple paybacks for water efficiency measures can range from a few months to several years.

NEXT STEPS

P²AD will continue to work with the City's top water users that have committed to implementing a water conservation program. In addition, P²AD is partnering with the North Georgia Metropolitan Planning District to train water utilities in the Metro Atlanta area on how to implement commercial water audit programs. Conducting commercial water audits is one of the eleven water conservation actions in the District's *Water Supply and Water Conservation Management Plan*. This joint project with the City of Atlanta will be used as a tool to help other utilities implement commercial water audit programs.

POLLUTION PREVENTION ASSISTANCE DIVISION (P²AD)

P²AD is a non-regulatory division of the Georgia Department of Natural Resources that provides free technical assistance related to resource conservation and waste reduction to commercial business, industry, and institutions. P²AD can provide on-site water efficiency assessments, serve as a technical resource for water efficiency, facilitate water efficiency teams, or assist

facilities with performing water audits. For more information, visit www.p2ad.org.

SELECTED REFERENCES

Metropolitan North Georgia Planning District. 2003.
Water Supply and Water Conservation Management Plan.