United Energy, LLC

A Water Conversion Case Study

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Orlando City Hall
Orlando, Florida

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"The cost for this type of water renovation was so minimal that no budgeting was required and the 200% Return On Investment was impressive."

Description:

Orlando is well known throughout the State of Florida as *The City Beautiful* and the city takes great pride in its many well-maintained parks and office buildings.

Jones Lang LaSalle, Orlando's current contract property manager, recently selected one of these buildings, Orlando City Hall, for a water renovation test project. This city building currently provides office working space for over 400 city employees and hosts at least twice that many additional daily visitors.

It is estimated that the building's 80 flushometer toilets and 16 urinals are being used a minimum of 1800 times per day.

Goals:

The primary goal of the project was to test a particular toilet and urinal renovation procedure to establish whether or not it could provide a reasonable low-cost solution toward reducing the city's water consumption.

While the minimal cost of the project was an obvious given, the water savings needed to be substantiated and the performance of the fixtures post-renovation needed to be verified.

In all water renovation projects the most important requirement of a conversion is ***functionality***. In all cases, the performance of the renovated fixture should be equal to or better than before conversion.

Solutions:

The project consisted of performing the regular routine maintenance of replacing the internal working parts in all of the Sloan and Zurn toilets and urinals with new ones.

In addition to using the standard Sloan or Zurn replacement kits, a special interior pressure cap called CONSERVACAP was also installed.

Components:

The CONSERVACAP was designed by HydroEnhanced Labs to provide an interim solution to reduce water consumption in both flushometer toilets and urinals, without having to replace the entire fixture. A separate cap is available for both toilets and urinals.

The **CONSERVACAP** for toilets, when installed with a Sloan A-38-A kit, will reduce the water used in that toilet from 3.5 gallons per flush (GPF) to 2.75 GPF

The **CONSERVACAP** for urinals, when installed with a Sloan A-37-A kit, will reduce the water used in that urinal from 1.5 GPF to 1 GPF.

CONSERVACAP comes with a manufacturer's 5-year warranty and can be easily installed, along with the other replacement parts, in less than 20 minutes. This type of conversion provides a smooth, flawless performance for renovated fixtures.

Results:

Based on the savings generated by this installation of CONSERVACAP, the City of Orlando is currently saving almost 500,000 gallons of water annually. Using the city's current water/sewer rate of almost $6 per thousand gallons, the approximately $3,000 in annual savings now is more than twice the cost of the conversion.

Environmental:

What this project provides is an alternative solution for companies who wish to take a positive step toward saving water but don't yet have the capital to install new low flow fixtures.

Also, in some cases, older facilities with plumbing systems that are decades old can't afford to reduce the liquid content of their sewer flow and risk the chance of a major system clog up. A four-inch sewer pipe that is 50 years old no longer has that same four-inch carrying capacity that it did when it was new.

In many older Historical Landmark Buildings, such as the Miami Beach City Hall and the Albuquerque City Hall, conversions to 1.6 GPF *Low Flow* toilets resulted in plumbing blockages and total shutdowns of the system. These failures ultimately required a total replacement of each of these building's entire plumbing system.

For these reasons, many older school campuses, such as Southern Illinois University and Colorado University have installed CONSERVACAP in their facilities and many of the older prisons in Michigan and Indiana have done the same.

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