

A Water Conversion Case Study

UEA PUBLICATION FORUM / VOL. 108 — SPRING 1999

Sarasota County Administration Building Sarasota County, Florida

“Although we were very impressed with the work UEA had done for our local hospital, we thought it was a good idea to do some evaluation of our own before proceeding on with any major renovation investment. The administration building provided an excellent test.”

Description:

Sarasota County, Florida, endures some of the highest water/sewer fees in the nation, with combined rates commonly exceeding \$9.00 per thousand gallons. Consequently, Sarasota County officials were extremely interested in evaluating any program that promised to substantially reduce these costs. When UEA engineers presented preliminary audit numbers showing an investment payback of less than two years, it was decided that a test was in order and the county's administration building was chosen as the beta site.

This six story building houses most of Sarasota County's administration, employing approximately 350 full time employees

and hosting over 100 visitors per day.

Retrofit Goals:

The conversion project centered around the building's 60 toilets and 18 urinals. In addition, 60 bathroom faucets and 8 shower heads were also targeted for renovation. As with all UEA renovations, the main emphasis was placed on maintaining or improving the functionality of the fixtures themselves. While many units, that were using 4 or more gallons per flush, were converted to effectively use just 2.75 gallons, several recently installed 1.6 gal toilets (which were not flushing properly) had to be increased to use 2.2 gallons of water. Although this latter adjustment affected the project's payback performance; the fact that further multiple flushing of those 1.6 toilets had been eliminated was considered a trade off for the additional .6 gallon of water now required to make the fixture functional.

Along with the toilet conversions, 60 special vandal resistant moderators were installed on existing faucets to reduce the water flow from 2.2 gallons to .5 gallon in all public rest-rooms. In addition, new self-cleaning showerheads were installed to re-

duce the flow from 4.5 to 2.5 gallons per minute.

Constraints:

The major constraints of the project were first, a short time span was allowed for the installation to be completed. In addition, the handling of the varying water pressure differences between the six floors within the building provided a distinct challenge.

In order to complete the project as soon as possible and to gain full-time access to both the gentlemen and ladies rooms, UEA's install crews consisted of both male and female technicians.

Special handling and calibration of the flushometer units on the first floor (where water pressure exceeded 100 lb. PSI) was required to ensure that all units functioned smoothly and with as little noise as possible.

Results:

The renovation was performed in one week, as scheduled. Total water savings for this retrofit conversion are projected to be 37,000 gallons per month or over 447,900 gallons annually. Of this total annual savings, it is estimated that over 92,400 gallons of water required heating. Energy savings for just this

hot water reduction alone are projected to save Sarasota County an additional \$562 annually.

Response from the maintenance staff has been extremely positive. Those toilets that had been causing problems by short flushing were adjusted to work perfectly. Downstream maintenance has been reduced and simplified by converting fixtures to use all *HydroEnhanced* calibrated components.

Environmental:

The environmental impact of this project is significant. Over a ten year period, the renovation will save more than 4,500,000 gallons of water. United Energy Associates, Inc. is an active supporter of the EPA's WAVE Program.

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