

A Water Conversion Case Study

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Sarasota Memorial Hospital Sarasota, Florida

“At first glance, UEA’s payback projections of 12 months seemed very aggressive to our staff. However, after carefully reviewing the numbers, we had to agree that the calculations were actually conservative.”

Description:

Sarasota Memorial Hospital is an 850 bed, full service medical facility with over 3,700 employees and a medical staff of 680. The second largest public hospital in Florida, Sarasota Memorial ranks among the top 20 hospitals in the United States in the number of open-heart surgery procedures performed annually and among the top 10 hospitals in the number of joint replacement procedures performed each year. The city of Sarasota has one of the highest water/sewer cost in Florida, with a combined rate of \$9.38 per 1,000 gallons.

Retrofit Goals:

The retrofit project targeted 870 toilets and 1,729 faucets for renovation. The primary goal of the retrofit

conversion was to improve the functionality of the existing fixtures while, at the same time, reducing the consumption of water as much as possible. Toilets that had been using 4½ gallons per flush were to be converted to use 2¾ gallons efficiently. Lavatory sinks, which had been using over 3 gallons per minute, would be fitted with special brass moderators, to reduce their flow rates to 1 gallon per minute.

Constraints:

As with any hospital renovation, the primary concern of management was to minimize the disruption the project might cause within the facility. Concerns were voiced about who would manage the project and how many technicians would actually be involved in the installation.

In order to minimize the inconvenience to both patients and staff, UEA engineers decided to perform the renovation work using just two specially organized 2-man teams; all highly experienced with working in and around hospital facilities.

Results:

Working only in areas assigned to them on a daily ba-

sis, these technicians moved quickly and quietly throughout the facility changing components and adjusting fixtures. Systems were fine tuned so that, in all cases, functionality was improved or remained the same. This was determined by using the standard UEA flush test of 60 sheets of shredded toilet tissue as a *minimum* performance threshold.

On many occasions, this method of installation required additional delays to obtain access and the doubling back over work areas that had already been partially completed. Despite these delays the retrofit project was completed in less than four weeks.

Savings for the renovation project are impressive. The total water savings are projected to be over 635,000 gallons per month or 7,620,000 gallons annually.

Based on the Sarasota water/sewer rate, these water savings produce an estimated financial savings of over \$71,495 per year. Additional hot water electrical savings of over \$3,306 bring the total annual savings to over \$74,800. This pays back the initial project investment of \$75,000 in approximately 12 months.

Another major advantage of this renovation, not reflected in these calculations, is the reduction of downstream maintenance through

the use of UEA’s own proprietary *Ultra Low Maintenance* (ULM) products. These plumbing components, many of which are made from space-age materials, carry the longest warranties (up to 5 years) in the plumbing industry.

Environmental:

The environmental impact of this project is significant. Over a ten year period, the renovation will save more than 76,000,000 gallons of water. United Energy Associates, Inc. is an active supporter of the EPA’s WAVE Program.

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