

A Water Conversion Case Study

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St. Mary's Health Center Jefferson City, Missouri

“We thoroughly tested Conservacap and saw the benefits of using it right away. The 2.75 Cap provided an easy and very affordable interim step between 3.5 and 1.6 gal consumption.”

Description:

The **St. Mary's Health Center** in Jefferson City is part of the *Sisters of Saint Mary Health Care*, one of the largest Catholic systems in the United States. The system owns, manages and is now affiliated with 21 acute care hospitals and three nursing homes in four states; Missouri, Illinois, Wisconsin and Oklahoma. Nearly 5,000 affiliated physicians and 22,200 employees work together to provide a wide range of services that are compassionate, holistic and of high quality.

St Mary's Health Center (SMHC) in Jefferson City was founded almost 100 years ago and is today preparing to celebrate its centennial history in 2005.

Retrofit Goals:

The hospital selected 210 Sloan flushometers for this renovation. The primary goal of the renovation was to

reduce the consumption of water as much as possible, while, at the same time, maintaining the functionality of the existing fixtures.

Toilets that had been using 3½ to 4½ gallons per flush were to be converted to use 2¾ gallons per flush efficiently. This retrofit was accomplished by installing new Sloan A-38-A repair kits and replacing the flush valve's inner cap with a new **2.75 CONSERVACAP**.

Constraints:

Part of the concern with any hospital engineering staff is always *what effect will a major reduction in fluid flow, through the older waste lines, have on the functionality of the plumbing system.*

At an earlier date, some consideration had been given to replacing the hospitals older fixtures with all new 1.6 gal *low-flow* units, but that project had been indefinitely postpone primarily because of functionality concerns.

Facility managers are well aware of the fact that a 4" waste line installed thirty or forty years ago probably no longer has the same capacity to carry waste away that it once did.

There are a large number of documented cases of older buildings (with long lateral lines with right angle turns in them) being very susceptible

to sewer blockage once the facility converted to 1.6 gal *low-flow* fixtures.

However, during SMHC's testing of **CONSERVACAP**, staff members had noticed that the renovated fixtures performed as well after renovation as they had before hand.

Also, during the testing, it was noted that the force and amount of water used in the flush cycle appeared to be the same after renovation as before, and only when the flush cycle was timed could the testers see a difference (with the after flush cycle being just two to three seconds shorter).

Results:

This water renovation project was installed by the hospital's staff in less than four weeks. In addition to installing new A-38-A kits and **2.75 CONSERVACAPS**, system leaks (stops, handles, spuds) were repaired where ever needed.

Minimum water savings for this renovation are projected to be over 50,000 gallons per week or over 2,600,000 gallons of water per year.

Based on the Hospital's current water/sewer rate of approximately \$5.00 per thousand gallons, these water savings now will produce an estimated financial savings of

over \$13,000 per year. This will pay back the initial project investment of \$5,250 in less than 6 months.

Another major advantage of this renovation, not reflected in these water savings calculations, is the reduction of downstream maintenance through the use of the Ultra Low Maintenance (ULM) product, **2.75 CONSERVACAP**.

Made from space age materials, **CONSERVACAP** is so durable that it comes with a manufacturer's warranty of 5 years; one of the longest warranties of any product in the plumbing industry.

Environmental:

The environmental impact of this project is significant. Over a ten-year period, the renovation will save more than 26,000,000 gallons of water and save the hospital over \$150,000 in water/sewer expense alone.



**Contact: Mr. Mike Bock
Director of Facilities
St. Mary's Health Center
100 St. Mary's Medical Plaza
Jefferson City, MO 65101
(573)761-7015**