

GREENING THE EVERGREEN STATE COLLEGE

WATERFREE URINALS MEET CIVIC IDEALS WHILE CUTTING OPERATING COSTS



About The Evergreen State College

The Evergreen State College is a progressive, public liberal arts and sciences college in Olympia, Washington that places a high value on linkage between theory and practice.

The green impact of waterfree urinals at Evergreen include:

Maintenance savings
= \$9,000 per year

Water and sewer savings
= 2.4 million gallons per year

Possible LEED-EB and LEED-NC points
= 3 (one for innovative wastewater technologies and up to two points for water use reduction)

Most of the buildings at The Evergreen State College are 35 years old, and prior to recent upgrades, the restroom fixtures ran the gamut of flush volumes. Nearly all the plumbing fixtures were installed before 1992 federal regulations went into effect to limit flush volumes. The restrooms were the largest single user of water on campus, which is not unlike most other commercial and institutional facilities. Restroom fixtures consume about 1/3 of the fresh water delivered to the average facility, which then becomes 1/3 of the total sewage output. Conservation ideals drove the decision to replace flushing urinals with water-free models at Evergreen. Reduced operating costs became an added bonus.

At the 'Head' of the Conservation Trail

Ninety flush-style urinals came off the walls in the first water-free wave. "Fiberglass urinals were installed, but within six months we started to experience problems with discoloration of the bowls," explains Mike Drennon, the Facilities Mechanical Systems Manager. The fiberglass finish is susceptible to damage from abrasion and certain cleaners, resulting in a porous surface. Drennon adds, "the last thing you want is a restroom bowl that absorbs stuff!"



"After the installation and brief training, the waterfree urinals became a hit."

Mike Drennon
Facilities Mechanical Systems Manager

"While we were realizing the scope of the problem with fiberglass bowls, we learned about water-free urinals from a different manufacturer, Falcon Waterfree Technologies, that are made of vitreous china." Drennon continues, "We immediately began to replace the fiberglass fixtures because china holds up to the use and abuse that's common in public facilities."

continued



Mike Drennon, Facilities Mechanical Systems Manager for Evergreen describes how waterfree urinals reduce costs while providing environmental benefits.



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Water-free Urinals Make the Grade

The maintenance and housekeeping crew were initially skeptical of the new water-free technology and the need to adopt a new cleaning process. "They were very unhappy as a result of the bad experience with the fiberglass bowls," Drennon explains. "After the installation of the china bowls and brief training, the water-free urinals became a hit."

The mechanical services team was first to be trained in the regular maintenance procedures. Drennon adds that because they already understood the mechanical aspects of the urinals, "they were in an excellent position to become our trainers for the custodial staff." Falcon Waterfree provided the initial training for the mechanical services team, and continued to assist as needed in the housekeeping training.

Regular maintenance of Falcon Waterfree urinals consists of a top-to-bottom wipe-down, using a mild germicidal disinfectant. Replaceable cartridges are changed every four months by the housekeeping staff, and take only a couple minutes per urinal. According to Gaylon Finley, Building Services Manager, the total cleaning time is a little shorter in the restrooms with water-free urinals because they don't require extra scrubbing and flushing. "After we clean a restroom with water-free urinals, it's just as clean as any other restroom," Finley says. But before housekeeping enters to begin their job, the restrooms with water-free urinals are cleaner because there are fewer flush plumes generated. Flushes present an invisible threat because they create an aerosol plume that spreads bacteria-laden moisture to every surface in the restroom.

The ultimate measure of performance comes from faculty, students, and campus guests. "We rarely hear from people, which is a good thing. In this line of work, you usually only hear from people when there are problems. People around here are very environmentally conscious and are willing to make some sacrifices, but not when it comes the cleanliness of restroom. People demand clean restrooms and the water-free urinals help in that respect," Finley explains.

Green and Growing

The original wave of water-free urinals has expanded to 120 fixtures across campus, in academic, administrative, and student housing facilities. The Falcon Waterfree urinals have cut 1/3 of the annual maintenance cost for flush valves at Evergreen, which average \$75 per urinal per year. Another water-saving measure was the replacement of water-cooled air compressors and refrigeration equipment with air-cooled models.

Water-free urinals have also been included in new construction projects, the Seminar II complex, which is expected to earn Gold LEED-NC certification. Officials at Evergreen are also considering LEED certification for the existing buildings (LEED-EB). The use of water-free urinals can contribute up to three points toward LEED-EB and LEED-NC certification.

All of these projects are intended by Evergreen to serve as models for other communities and institutions. They are examples of Evergreen's goal to move theory into practice and take responsibility for environmental impact. They also make an attractive business case for reducing operating costs.