

Restroom Fixtures to Save Resources

Most New Yorkers, who are long accustomed to seeing huge office structures and condominiums, see little noteworthy about a new high-rise building being built right outside of New York's Times Square. But a closer look reveals that this is important architecture and will be a significant building, not only for New York, but for the world as well.

The building, which will be the Bank of America's East Coast headquarters, is a marvel of innovative, high-tech, and environmentally preferable features. In fact, the \$1 billion structure is the first in the United States to earn the top environmental rating from a coalition of building industry leaders and environmental organizations.



Its many unique, Green features include:

- Double-wall technology that dissipates the sun's heat
- Ventilation systems that run under floors, allowing for more efficient heating and cooling, thus conserving energy
- Monitors that continuously check indoor air quality and ensure adequate fresh air

- A system that collects and reuses rainwater and wastewater, which the designers believe will save as much as 10 million gallons of water per year
- Waterless urinals in all the men's restrooms

Moreover, giant office buildings are not the only facilities looking for ways to be Greener and more sustainable ... especially when it comes to restroom fixtures. Schools, universities, and healthcare centers throughout North America, in a quest to be more efficient, economical, and environmentally friendly, are incorporating a variety of new, innovative fixtures in their restrooms. The new systems include such features as sensor-controlled faucets and paper dispensers as well as high-tech toilets and waterless urinals, which use no water and cost considerably less to install than conventional urinals.

Curious Addition

Many hospital facility managers are well aware of restroom systems that reduce waste and help regulate water use. However, some are just now hearing about waterless urinals, even though these fixtures have been used in parts of Europe for more than 100 years and available in the U.S. for almost two decades.

And, at least initially, most facility managers are quite curious as to how a waterless urinal works and there is some concern that these urinals might contribute to restroom odors.

Visually, a waterless urinal is just like a traditional urinal, but without the plumbing usually found at the top of the fixture. However, at the base of the urinal's interior is a trap insert or cylinder filled with a thin layer of liquid or sealant. Urine passes through the cylinder and sealant, which forms a barrier to prevent odors from escaping, because it is heavier than the liquid sealant. It eventually flows under the barrier layer and down a conventional drainpipe.

According to Klaus Reichardt, managing partner of Waterless No-Flush™ Urinals, the sealant as well as the cylinder must eventually be replenished on most no-water urinals. “But, this helps replace the thousands of gallons of potable water flushed by conventional urinals,” he says. “And, independent laboratory studies have shown that the no-water urinals have [usually](#) less odor than do flush-type [conventional] urinals.”

As to water savings, Reichardt says conventional urinals use as much as three gallons of potable water per flush. “In a busy facility, such as a medical center, one urinal might be flushed as much as 2,000 times per month,” he says. “This means one urinal may use as much as 40,000 gallons of water annually, which then must be disposed of by transporting it down drains and sewers where it is [eventually] treated by costly-to-build and maintain local sewage treatment plants.”

Maintenance Matters

Because cleaning is such a major concern in healthcare centers, housekeeping departments often wonder if waterless urinals require special cleaning attention or if they become more soiled than a conventional urinal.

Waterless urinals do not require any special cleaning chemicals and tend to actually be easier to maintain because most are made of smooth, liquid-repellant surfaces. And because no water is used, there are fewer deposits or stains left on the urinal, which can require scrubbing to remove. Studies have found that germs and bacteria are less likely to develop on waterless urinals as well [due to their dryness](#).

However, as mentioned earlier, a waterless urinal's liquid sealant must be replenished or changed on a regular basis, depending on restroom traffic. Additionally, the entire cylinder, trap unit, or specific parts must be replaced two to four times per year, which is a very simple procedure, according to Reichardt.

In the U.S. there are three or four manufacturers of waterless urinals. Although each type essentially works the same, they use slightly different systems, requiring different maintenance requirements. Because of this, facility managers must analyze the different types of waterless urinals and decide which system works best for their facility. "Some trap inserts are very inexpensive and relatively long lasting while others are quite expensive and need to be changed often," says Reichardt. "This can eliminate the savings [facility

managers] might have hoped to achieve by minimizing water use and installation costs.”

But, Reichardt says waterless urinals have finally found a foothold in the restroom fixture industry, and especially in facilities that want to be Greener and more sustainable. “Waterless urinals [are](#) here to stay,” he says. “They have proven themselves and are helping sustain our environment in a safer, more hygienic manner.”

While a significant construction project just outside New York’s busy Time Square area might be going unnoticed by the locals, facility managers need to pay close attention as to what this and similar new buildings are signaling. These enviro-responsible structures are pioneering a path and giving us a glimpse into the future of building design.

Sidebar:

The Basics on Urinals, [new construction](#):

- Before 1989, urinals used three gallons of water per flush
- From 1989-1994, this was reduced to 1.5 gallons per flush.
- After 1994, this was further reduced to 1.0 gallon per flush.

