



## MAKING THE RIGHT CHOICE

The selection of fixtures in commercial buildings is pretty straightforward, with one possible exception – the urinal. The impact of urinals on water supply pipe sizing can be significant.

As an example, in a warehouse where the owner may want a single urinal in the shipping

and receiving area, the water service connection for the building would need to change compared to a building with no urinal.

Where you might have had a one-inch service, with 3/4-inch and 1/2-inch mains and branches in the rest of the sys-

nals on more and more projects based on demonstrable savings." An internet search uncovered case studies that back this statement up. One manufacturer offers a template to calculate the savings for specific installations. This tool takes into account all aspects of use



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tem, the inclusion of a single urinal means that in many cases a 1-1/2-inch service and correspondingly larger mains and branches would be required in order to meet code. The additional cost of larger pipe sizing has created a market for alternative solutions, such as flush tank urinals that only require a 1/2-inch connection and add few fixture units to the load calculations. Flush tank urinals have one significant drawback: they consume a lot of water.

### WATER, WATER EVERYWHERE?

Enter the waterless urinal and you have a solution that eliminates the sizing issues as well as the consumption issue. Savings based on reductions in water consumption can be significant but are sizing and consumption the real reasons for the steep rise in popularity and sales of waterless urinals?

According to Nigel Webb of Canadian Aqualine Sales in Delta, BC, "Engineers are specifying waterless uri-



Many facilities see reduced water consumption as an incentive for the use of waterless urinals.

including purchase of the required maintenance supplies. The most compelling reason, however, can be summed up in one word – LEED.

The US Green Building Council's (USGBC) and the Canada Green Build-

ing Council's (CaGBC) Leadership in Energy and Environmental Design (LEED) programs recognize and reward projects that use waterless urinals in place of conventional units. So as designers seek points to meet LEED certification requirements, waterless urinals may figure heavily in their specifications.

### TWO GRAY AREAS EMERGE

In some regions, inclusion of waterless urinals has required special approval from the local authority having jurisdiction. The reason is that conventional urinals have specified fixture unit counts that impact pipe sizing and the plumbing code implicitly recognizes and regulates their use. Code officials can easily determine whether or not any given installation meets all relevant code requirements.

Is the same true for the waterless urinal? Certainly the intent is that use of a waterless unit should not impact the drain, waste and vent (DWV) pipe sizing nor the design or installation of the DWV system downstream of the urinal when compared to any conventional urinal being considered.

What is the fixture unit count of a waterless urinal and should the answer to that question have any impact on supply pipe sizing? This presents the first gray area, which is an inconsistency in installation requirements.

To find out more, I spoke to Art Depner, the West Vancouver representative on the Lower Mainland plumbing code committee of the British Columbia Plumbing Officials Association. He said that in his jurisdiction, special permission would have to be sought prior to installation of a waterless urinal.

While in Atlanta, GA attending a recent trade show I had the opportunity to see many waterless installations. While some were clearly retrofits, even

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in what had to have been original installations, there were rough-ins for the possible addition of flush valves. This would eliminate the gray area in regard to pipe sizing and fixture units but it certainly impacts the installed cost savings potential offered by choosing waterless in the first place.

How is this possible? The logic in LEED is that using potable water to flush both toilets and urinals is a waste of resources on many levels. Potable water, being treated water, is not free. Saving potable water not only saves the building owner the metered cost of the water, it saves the utility the treatment

How then does this impact the waterless urinal? Peter Hughes of Stantec Engineering explains that, "On a project where rainwater (and other possible gray water sources) is to be reclaimed and utilized, toilet flushing and urinal flushing are important uses for this water."

Ultimately, the utilization of the rainwater in this context may be more beneficial to the project than simply eliminating the consumption altogether by using waterless units.

**"The very thing that makes them attractive to engineers and building owners alike, is also the reason that waterless urinals may not be used."**

Gray area number two has an even more interesting twist. Waterless urinals are LEED approved products. At the USGBC website ([www.usgbc.org](http://www.usgbc.org)), there is clear encouragement for use of the technology. However, water conservation, the very thing that makes them attractive to engineers and building owners alike, is also the reason that waterless urinals may not be used.

and distribution costs related to producing and distributing it. It makes real sense to try and save this water, does it not?

LEED encourages designers and builders to reduce, recycle and reuse in all building materials and systems. This has led to a renewed interest in alternatives to managing rainwater and drainage run-off from hardscapes in the built environment.

**GO WITH THE FLOW**

Waterless urinals make sense in many installations. While there may be some concern regarding local approvals, most jurisdictions do allow their installation. The overall benefit derived from reduced water consumption, in both LEED and non-LEED projects will continue to provide incentive for their use.

In low frequency occupation, high traffic applications like sports arenas, conventional flush tank urinals make sense. In buildings with constant occupancy and intermittent traffic, like office buildings, waterless urinals make conservancy an attractive potential. It is safe to say that waterless urinals are now mainstream products with an important role to play in meeting the evolving needs of the plumbing fixture market. **HPAC**

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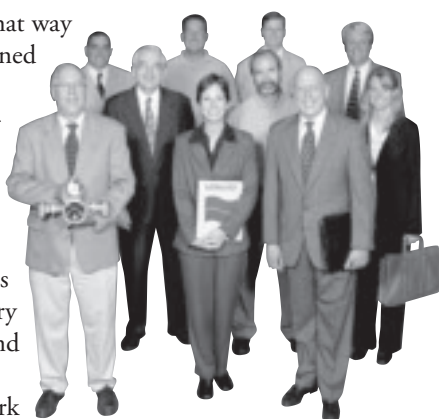
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