

## Golf courses dump portable toilets for composting ones

Golf course superintendents are often pressured to provide mid-course restroom facilities. In many cases, flush toilets aren't an easy option. Utility lines and septic systems can be expensive. Water might be scarce.

In these situations, many superintendents rent portable toilets,



The composting toilet at The Wilderness at Fortune Bay in Minnesota.

but these systems can be unpleasant to use and need to be pumped out frequently. This process generally requires a large pump truck, and if the chosen location isn't accessible by road, it can be difficult.

Recently, more golf courses have been using composting toilets to satisfy their mid-course restroom requirements. Like portable toilets, composting toilets generally use a dry fixture, avoiding the need to extend utility lines.

Unlike portable toilets, which only act as holding tanks for waste, composting systems treat solid and liquid waste through natural processes. In the composter, a variety of organisms, mainly bacteria and fungi, break down the waste.

The process is identical to the natural decomposition that takes place on the forest floor and in backyard compost

piles. During the process, solid and liquid waste is separated in the composter. Over time (typically after a year or more in the system), solid waste volume is reduced by more than 90 percent, and what remains are safe, stable end-products: a solid compost that resembles topsoil and a high-nitrogen liquid fertilizer. The compost end-products often are removed manually and spread on nearby ornamental plants.

Composting toilet systems are aided by an electric fan-powered ventilation system, which is crucial for keeping the bathrooms free from odor. The ventilation system works by pulling air down through the toilet and out the vent duct that terminates above the structure. The fan also keeps oxygen circulating through the compost pile, which aids the composting process by stimulating the growth and function of decomposer organisms.

Golf course superintendents, such as Gary Temple of Greendale Golf Course in Alexandria, Va., and Jeff Van Sleet of Forest Greens Golf Club in Triangle, Va., have experienced composting systems first hand, and they've been pleased. Both golf courses have used composting toilets for about 10 years.

Temple, who's been with Greendale for the past five years, has been happy with the toilet and has received no complaints, just positive feedback. The course generates about 50,000 rounds of golf annually. Greendale outsources maintenance duties to a local compost toilet representative, who removes end-products as necessary and makes sure the system functions as intended.

Forest Greens has earned the designation "Environmentally Friendly Golf Facility" from the Virginia Department of Conservation. Earning that designation required, among other things, working with the State

Departments of Agriculture and Environmental Quality to develop a nutrient management plan, which included the use of a composting toilet unit on the course.

However, the primary motivation for purchasing the system was financial, Van Sleet says, adding that the composting toilet has paid for itself. The location of the composting toilet at Forest Greens is somewhat remote. Van Sleet says it would have been difficult to get a large pump truck in to drain portable toilets. Instead, Forest Greens contracts with the manufacturer's rep to keep the composting toilet functioning as intended. When waste is fully-composted, it's removed and spread on-site.

Greendale and Forest Greens are only two examples of the many golf courses that use composting toilets. Other



The Clivus Multrum M54 Trailhead can handle over 20,000 uses annually.

courses that use them include The Wilderness at Fortune Bay in Minnesota and the historic Maidstone Golf Club in New York.

As more superintendents face pressure to conserve water and provide added amenities for golfers, the argument for composting toilets is becoming more compelling.

