

# A Wash Pad Alternative

*Equipment wash-down areas are a concern at many maintenance facilities. Options are available to improve these areas without breaking the bank.*

By Paul Stead and Mike Loftus

Several years ago, Kennett Square Golf & Country Club (Kennett Square, PA) needed to address a problem that many golf courses face; concerns over the equipment wash-off area and the associated runoff from the washing procedures. Proper equipment wash-down areas are a long-standing issue for many golf course maintenance facilities. Commercial systems are very expensive, especially if extensive site preparation is required. We hope to offer an alternative and innovative solution to deal with equipment wash area runoff. Although it may not be the ideal solution, we reduced the potential environmental impact from equipment wash-down at minimal cost.

## PROBLEM

In the past, equipment wash-down was performed in the maintenance building parking lot. The operators would drive into the parking lot area, grab the hose, and wash the equipment until it was clean. This procedure left a lot of grass and dirt on the parking lot. The runoff wash water would run across the parking lot and ultimately drain into the Red Clay Creek that flows adjacent to the shop area. This body of water is especially sensitive in that it is part of the larger "Wild and Scenic River" network. By the end of each day the area was a mess. The smell of wet,



**The old wash down area at Kennett Square Country Club was located at the edge of the maintenance facility parking lot, very close to the environmentally-sensitive eastern branch of the Red Clay Creek.**

decaying grass was overpowering, and this was the first impression for visitors to the maintenance facility. With many other pressing issues facing the club in the current economy, limited funds were available to address this problem, but clearly something needed to change.

## A DIFFERENT SOLUTION

If money was not an issue, the ideal solution for this situation would be a recycling system that eliminates concerns for equipment wash-down runoff. Unfortunately, these systems can cost anywhere from \$30,000 to \$100,000, especially when site preparation is considered. While we ultimately hope to install a commercial



A variety of plants were used to establish the rain garden. Some mortality was planned for at establishment, but, surprisingly, virtually all of the original plants survived and thrived.

system, we came up with an inexpensive solution that provided a dramatic improvement over our existing situation.

Our solution addressed several of our concerns. First and foremost, we needed to move the wash area away from the Red Clay Creek. Secondly, we wanted to decrease the amount of water used for equipment wash-down and decrease the potential amount of contaminants in the waste water. To make this possible, we moved the wash area away from all streams. In addition, we constructed a concrete paver pad to park our equipment while washing off.

To complete the project, we designed a rain garden behind the wash pad, which collects and filters the waste water. For us, the rain garden is merely a depression that acted as a collection point for the runoff, and was planted with several different plant species that helps filter the water as it slowly infiltrates the ground. Project construction was very simple. The paver pad was laid just

like any patio. A water line was run from the irrigation system to the wash area that included two hose connects. Next, the paver area was sized to comfortably fit two large pieces of equipment at one time. We laid an eight-inch stone base, and two inches of sand before installing the pavers. A deep base was utilized to assure no settling would occur under heavy equipment. In between the pad and the rain garden, a two-foot-wide strip of river rock slows the flow of water and collects grass clippings before the water enters the rain garden. We gently pitched the paver pad to run into the area that would ultimately be planted as a rain garden. The rain

Botanic Name	Common Name	Notes
<b>PERENNIALS</b>		
<i>Eupatorium fistulosum</i>	Joe Pye Weed	
<i>Asclepias incarnata</i>	Swamp Milkweed	Monarch Butterfly host
<i>Lobelia cardinalis</i>	Cardinal Flower	Attracts hummingbirds and butterflies
<i>Iris versicolor</i>	Blue Flag Iris	Early bloomer
<i>Carex stricta</i>	Tussock Sedge	
<b>SHRUBS</b>		
<i>Ilex verticillata</i> 'Red Sprite'	Red Sprite Winterberry	Female – berried variety
<i>Ilex verticillata</i> 'Jim Dandy'	Jim Dandy Winterberry	Male - necessary for berries
<i>Ilex glabra</i>	Inkberry	Evergreen shrub

garden is designed to be a slightly depressed area with a berm surrounding it to contain water, and the soil was amended to achieve a minimum infiltration rate of one inch per hour. Plants that tolerate and thrive when occasionally inundated with water were selected. This was not the only characteristic that was used in the selection. Other considerations included species native to our area, plants that provide year-round interest from spring-blooming perennials to fall berries, evergreen shrubs, and species that provide food and shelter for song birds, hummingbirds and butterflies.

## WASH PROCEDURES

After we installed the new wash pad, we changed our wash procedures to reduce the amount of water used and to limit the amount of clippings in the waste water. The first change was to use blowers to disperse excess clippings and scrape mud off the mowers. This operation is performed at a dedicated site adjacent to the wash-down area. The equipment then is taken to the wash pad, and water is used to clean off the remainder of clippings and mud from the equipment.

## MAINTENANCE

Since installing the wash pad, several maintenance tasks need to be performed to assure continued success. At the blow-off site, clippings occasionally need to be removed, and are easily composted. The wash pad itself is cleared of clippings on a regular basis, either daily or weekly, depending on the amount of clippings deposited each day. Several times per year, the rain garden has the clippings removed from it. The frequency of this cleaning is dependent upon how often the pad is

cleaned off, and how efficiently the clippings are blown off of the equipment. Even with area maintenance, it takes less time to clean our equipment than the old process of using water to wash the equipment.

## COST

This project gave us great return on a fairly small investment. Installation of the wash pad area was about \$1,000, including the stone, sand, and pavers. The installation was performed in-house. The rain garden behind the pad cost an additional \$1,000, which included mulch, plant materials, and soil amendments. Again, this was completed in one afternoon. Including labor, the project cost the club less than \$2,500, yet it provides several benefits that would come from a commercial system costing far more.

## RESULTS

The wash pad and accompanying rain garden have added a unique element to our golf course. It added a functional component, but also added a small habitat area for many birds and butterflies. In analyzing the rain garden, it is functional and active at the times we need it most. The plants start growing in early spring, around the same time the seasonal maintenance crew is returning and the grass is beginning to grow. Throughout the season, when the majority of washing occurs, the garden is growing at a high rate, so it is able to filter the majority of water and absorb nutrients from equipment wash-down. As the year draws to a close, the garden begins to die back for the winter, but the amount of equipment needing to be washed off is very low at this time as well. Since it is basically a living,

growing sponge, the garden is able to accommodate us in our busiest season.

The results of this project are very promising. We have succeeded in reducing the amount of water used to wash off each piece of equipment, and the runoff water contains far fewer clippings because most are removed with blowers prior to wash-down. Most importantly, we were able to move the wash water away from the Red Clay Creek to prevent any runoff from entering into local bodies of water. Many golf courses are probably in a similar financial situation. A rain garden may not be the ideal solution, but it is far better than doing nothing to address bad situations with equipment wash-down areas.

Kennett Square Golf and Country Club became fully certified in the Audubon Cooperative Sanctuary Program in 2010.

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