

**Carey Krefft**  
NSTC/Farmtec

In last month's issue we explored the FEDERAL WATER POLLUTION CONTROL ACT and the NPDES. The impact of all of these laws and their counterparts to the golf course industry is upon us. It's already impacting many other industries. Are we next? The state Water Quality Control Board is gearing up the local governments for the storm-water pollution limits deadline.

Let's assume that you operate at least one equipment or vehicle wash pad. Where does the water go? This is important. If you're hooked up to a sanitary sewer, you're probably OK. If your wash wastewater leads to the local storm drain or a creek, you've got a problem.

**The Solution:** Obtain a permit to hook up to sanitary sewer. No problem, right? If the sanitary sewer is not available, you need a recycling system.

Now then, let's get down to business. In this article, we will attempt to explain all of the basic technologies currently being offered on the small

scale washwater treatment/recycling system for golf course use.

All treatment and recycling systems offered today employ a variety of different technologies in one system. In this conglomeration, each technology has a specific treatment goal. The trick seems to be to pick the system that offers the right com-

long-term cost of this approach is minimal, if anything. This is usually accomplished in the wash pad and wash pad sump design. Make sure your sumps are designed to catch and retain this heavy material. When a sump design is chosen or recommended, be sure it is easy to clean. Some can offer sediment collection as a part of the

3. **Treat for microscopic pollutants**, the ones measured in ppm or mg/l (these are the same for our purposes). These are the ones the regulators are looking for, such as -- Toxic metals: Pb, Cr, Cd, Cu, Ci, Zn, P; Toxic chemicals: Hydrocarbons, chlorinated solvents, etc.; Bacterial support: Organic matter, food, nutrients. This level of treatment has the most potential for being complicated. It is usually tied into chemistry and/or physics. This is also the most complicated, varied, and important phase of treatment as it removes many of the pollutants that the regulators are looking for. This one also determines the safety and clarity of the water being reused by your employees.

This segment of the total treatment process can also be expensive and often where the "hidden" costs will be. Treatment costs of around \$0.005 to \$0.02 per gallon of wastewater treated are routinely achieved.

4. **The final treatment**

*Continued on page 4*

# Environmental Compliance

## Washwater Treatment Recycling Systems

bination of treatment methods to meet your goals, whatever those might be.

There is a logical order to follow when treating a wastewater stream.

1. **Sediment collection.** Allow quickly settling material (sand, heavy dirt) to do so naturally. The

system.

2. **Treat for oils, if present.** This is usually accomplished by a process called mechanical coalescing, or by chemical treatments. This process is usually not too expensive. It is mechanical in nature.

707-747-5000

# CARRYALL

**DRIVE IT TO WORK.** Club Car®



- 1200 lb. Cap.
- Hyd. Dump
- Demos For Sale

## Rodent Control Specialists



LANDSCAPE PEST CONTROL SERVICES, INC.

ALLEN TUNBERG  
Pest Control Advisor  
and Operator

(415) 426-8461  
State License No. 05647

P.O. BOX 1166  
PLEASANTON, CA 94566



**ENVIRONMENTAL COMPLIANCE**

*Continued from page 3*

**phase** is known as polishing, conditioning, or disinfecting. This one is goal specific. Namely, what are you going to do with the water? If you send it to the sanitary sewer, your goals are fairly easy to achieve. You may not need further treatment here. If you want to recycle the water and plan to have your employees use the water for pressure washing, which creates a mist, you should design your system to provide clean and disinfected water.

In the next article we will explore the various individual technologies available to you. I am sure you will find some of them as fascinating as I did.



*In Memory*

Donald H. Scott, 71, died September 6, 1993. Mr. Scott was the founder and president of the Naiad Company, a manufacturer of wetting agents for golf courses and sports fields. He had been an affiliate member of the Golf Course Superintendents Association of Northern California since 1978; he joined GCSAA in 1982. Mr. Scott was one of the pioneers in the field of wetting agent technology and was widely recognized as an expert in the field. He is survived by his wife, Valeria, and his daughter, Janet Karrick.

**WELCOME TO THE GREEN**

**W**elcome to the following new GCSANC members:

**Eugene Dommer**  
Superintendent  
Colusa Golf and CC  
Class B Transfer

**Ross Miller**  
Superintendent  
Valley Gardens Golf Course  
Associate

**John Gingrich**  
Asst. Manager  
Pro-Grass Landscape  
Affiliate

**Tony Alves**  
Owner  
Tony's Equipment Repair  
Affiliate

**Dave Bingham**  
Gen. Sales Manager  
R.V. Cloud Irrigation  
Affiliate

*Applications have been approved for membership for the listed classification pending the 30-day waiting period, verification of status, or passage of any required tests.*

Tests Passed  
**Dana Waldor**  
Hidden Valley Lake Golf Course  
Passed Class A Exam

**Ron Fukuyama**  
Aetna Springs  
Golf Course  
Passed Class B Exam

**NAUMANN'S NORCAL NEWS**

**Bob Walker**, former assistant at Deep Cliff GC in Cupertino, is the new "head duck" at Mallard Lake Golf Course in Yuba City...**Bob Whittaker** (with the H.V. Carter Company) also known as Chief Anti-Submarine Warfare Operator Robert A. Whittaker III, United States Naval Reserve, recently retired from the

Naval Reserve after over 26 years of dedicated service. A ceremony was held at Moffett Field in his honor...Cypress Point Golf Club Superintendent **Jeff Markow** is undertaking a sacred project. He is supervising the installation of a Rainbird irrigation system. Hydro Engineering was awarded the contract.



**Pacific Sod**  
California's Largest Selection  
of Cool and Warm Season Varieties

---

**Ray Freitas**                      **1-800-692-8690**



**PROFESSIONAL PRODUCTS**

**Steve Franzen**  
Area Manager