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There are any number of ways to achieve your wastewater management and treatment goals. The order of treatment is somewhat flexible.

The first order treatment are sediment collection and Coalescing.

Sediment Collection and Natural Settling

This component of the wastewater (sand, grit, heavy dirt) will generally want to settle out by itself, and right away. This element of the wastewater has a specific gravity of around 2.5 times or greater than water itself. If you allow for this au-natural settling to occur in the sump, you should choose a sump design that anticipates cleaning out the sump area where it collects.

Generally speaking, a good basic wash pad design includes:

- ◆ **A sloping floor** leading to a sump
- ◆ **A sump** of a minimum of three cubic feet with a draw-off pipe somewhere near the top that leads to the recycling system
- ◆ **Electrical power** (may

include pressure washer power, as well as treatment system power)

- ◆ **Domestic water supply** for cleaning and makeup water
- ◆ **Electrical power** in the sump, if a sump pump is used
- ◆ **Important:** make the sump easy to clean, it will need it often as it will fill quickly.

1. Anything (grit, sand, etc.) that could clog or damage the sewer piping system is prohibited
2. TSS (total suspended solids) some districts have limits for this, usually around 1000ppm. Easy to exceed when washing a tractor that's been in a dirty or muddy situation.

process that is based on the laws of attraction and of gravity.

Oil is lighter than water. It has a specific gravity lighter than that of water, so therefore it floats, or it wants to. However, in microscopic size, or with an emulsifier present (soap), it floats **VERY, VERY SLOWLY!** This can allow enough oil to get through to cause problems down the line, either with further treatment or with regulators.

To speed up this floating/separation process we put a maze of special plastic in the waste stream. This plastic attracts the microscopic droplets and gathers them with many others. This is called **COALESCING**. When enough have gathered on the plastic, they break free and float to the surface where they are trapped, skimmed and removed.

Another approach is to treat chemically. There are chemicals and specially formulated detergents that can "give up" the emulsified oil. Once this "split" is accomplished, the oil may be coalesced and separated mechanically.

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Environmental Compliance

Sediment and Oil Treatment Systems

This method costs less than filters or chemicals. This process may be accomplished in a free standing tank if need be.

Regulatory Note

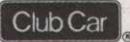
The regulators will look for sediment under two categories:

Treatment for Oil in Water: Coalescing

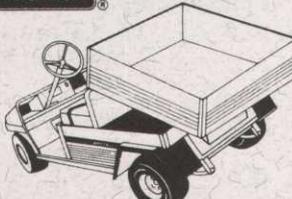
Now is the time to remove the majority of any oils if present. If most or all of the oil is removed here, it will have less chance of fouling whatever treatment method lies ahead. Treatment for oil in water is fairly simple. Usually it's a mechanical

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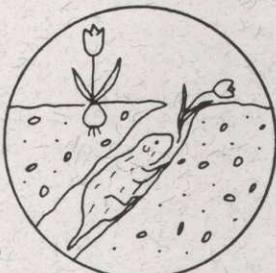
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An Ounce of Prevention

Instituting a worksite Injury Prevention Program can save your course a lot of time and money by recognizing and avoiding potential hazards *before* someone gets hurt. Worksite injury prevention program requirements:

1. Identify a person or persons responsible for implementing and overseeing the program.
2. Establish a system for identifying workplace hazards including scheduled, periodic inspections.
3. Have methods and procedures for correcting unsafe conditions and work practices in a timely manner. Establish time frames to eliminate hazards found.
4. Develop and maintain a safety training program designed to instruct all employees, new and old, in general safe and healthy work practices.
5. Develop a system for communicating with employees on occupational safety and health matters.
6. have a system (including

disciplinary procedures) for ensuring that employees comply with safe and healthy work practices. Implement steps your company will take to ensure that all workers obey safety rules.

7. Train all employees when the program is first established. Train all new employees when hired and all employees who are given a new job assignment. Also, train employees whenever new substances, processes, procedures, or equipment are introduced.

From the San Diego County Farm Bureau

ENVIRONMENTAL COMPLIANCE

Continued from page 3

Regulatory Note

The regulators look for Oil in Water as: Mineral oil or Oil and Grease (O&G). Usually 100ppm is allowed in the sanitary sewer. Easy to exceed when washing a motor or a hydraulic system.

In the next article we are headed for the more fascinating aspects of this science.

CLASSIFIEDS

Employment Opportunities

Golf Course Superintendent.

Nine-hole course. Position opens March 1, 1994. Apply by January 21, 1994. Salary range \$28,000-\$32,000, free housing, health and life insurance. Lake Almanor Country Club, 501 Peninsula Drive, Lake Almanor, CA 96137. (916) 596-3282.

Golf Course Equipment Mechanic.

Sharon Heights Golf and Country Club is seeking a qualified equipment mechanic. Applicants must have a thorough understanding of the operation and repair of golf course maintenance equipment, and must be able to perform general overhaul of all types of small engines. Send resume to: Sharon Heights Golf & Country Club, 2900 Sand Hills Rd., Menlo Park, CA 94025, Attn: Ross Brownlie. Or call 415/854-0467.

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