

Practical Pollution Prevention Practices Outlined for West Coast Service Stations

Gasoline, motor oil, diesel fuel, antifreeze, tires, transmission fluids, brake fluid, batteries, auto paint, and solvents are just some of the many fluids and materials that cycle through a typical service station over the course of a day. It is therefore not surprising to find that service stations are a major stormwater *hotspot* in the urban landscape.

Even though they are small in size, service stations can generate significant loads of hydrocarbons, metals and other pollutants. The pathways include car washing, engine steam cleaning, spills of oil and gas, parts cleaning, leakage from wrecked vehicles, and exposure of automotive products and wastes to stormwater.

Indeed, for many years, the most common cleaning practice at service stations was to hose off workbays and fueling surfaces directly into the floor drain in the shop, or into a storm drain. With the advent of pretreatment requirements, most floor drains can no longer be connected to the sanitary sewer unless expensive pretreatment is provided. Thus, it is very likely that most gas station pollutants will be eventually be discharged into the storm drain system, and ultimately into our streams and rivers.

Can stormwater pollutant loads from service stations be prevented or minimized? A recent manual by the Santa Clara Valley Nonpoint Source Control Program outlines 15 low-cost pollution prevention steps that can be implemented (Table 1). This short manual is targeted to owners and operators of service stations and other vehicle maintenance operations. It outlines a series of simple shop activities and procedures that greatly reduce the risk of spills, leaks, or washoff of pollutants.

The pollution prevention approach is based on three basic principles. The first is the goal of running a dry shop, such that potential pollutants are kept from contact from storm or wash water. The second principle involves *zero-discharge*, whereby floor drains are sealed, and all automotive wastes are recycled, reused, or safely stored until hauled away for disposal. The third principle involves the thorough education of employees and customers on the day-to-day practices for safely handling, recycling, or disposing of automotive products.

The recommended pollution prevention practices are also sound from a business standpoint. They can

result in savings to the operator in terms of reduced product inventory, reduced quantities and expense for hazardous waste disposal, and reduced liability for spills and other pollution events. A key feature of the manual is a list of agency and vendor contacts for recycling and disposal of automotive fluids, tires, batteries, and solvents.

At this point, it is hard to quantify the degree of pollutant reduction that can be achieved through the pollution prevention approach. A possible test would be to monitor priority pollutant concentrations in the sediments and pool water of oil/grit separators serving gas stations that practice pollution prevention and compare the results with those that do not. The differences between them should be a good indicator of the effectiveness of this approach.

—TRS

Reference

Santa Clara Valley Nonpoint Source Control Program. 1993. *Best Management Practices for Automotive-Related Industries*. 15 pp.

Table 1: Fifteen Recommended Practices to Prevent Stormwater Pollution From Service Station/Auto Repair Areas (Santa Clara Valley Nonpoint Source Control Program, 1993)

1. Prevent discharges when changing automotive fluids.
2. Use drip pans when working on engines.
3. Use special care to prevent leaks from wrecked vehicles.
4. Quickly cleanup spills of all sizes.
5. Keep wastes from entering floor drains and storm drains.
6. Use concrete surfaces and roofing over fueling areas to prevent spilled fuel from contact with stormwater.
7. Properly store and recycle used batteries.
8. Clean parts without using liquid solvents (or use solvent recyclers).
9. Capture all metal particles during grinding and finishing operations.
10. Properly store and recycle waste oil, antifreeze and other automotive fluids.
11. Select "environmentally friendly" products and control inventory to reduce wastes.
12. Keep all working areas inside and away from stormwater.
13. Treat all liquid streams from car washing and engine cleaning.
14. Train Employees on pollution prevention activities for the shop.
15. Educate customers on proper recycling and/or disposal of automotive products.