



End of the line

The facts on stormwater for salvage yards

End of the line. Or is it? Salvage yards may be the end of the line for the useful life of a vehicle, but it's just the beginning of processes that are regulated under the federal Clean Water Act Amendments of 1987.

The national pollutant discharge elimination system (NPDES) permitting rule addresses the protection of water, surface water, and groundwater. It regulates facilities that have stormwater discharges associated with industrial activities.

Salvage yards are classified under Standard Industrial Classification Codes (SIC) #5015—Used Motor Vehicle Parts and SIC 5093—Scrap and Waste Materials, and are on the list of industrial activities required to comply with the industrial stormwater pollution prevention part of the rule. Under the North American Industry Classification System (NAICS), salvage yards are classified as NAICS 44131—Automotive Parts and Accessories and NAICS 42193—Recyclable Materials Wholesalers.

Kansas has not developed an industrial stormwater general permit, but is requiring industries, such as salvage yards, covered by this rule to file a Notice of Intent (NOI) form. An industrial stormwater Notice of Intent form is an application for permit coverage which will be used by KDHE when the Industrial Stormwater General Permit is developed. To obtain copies of this form, download it from KDHE's stormwater Web page at www.kdhe.state.ks.us/stormwater under the link called "List of Industrial Activities Phase 1.pdf," or call the Pollution Prevention Institute at 800-578-8898 or the Kansas Department of Health and Environment (KDHE) at 785-296-5549.

Pollutant sources

Salvage yards will eventually be required to prepare stormwater pollution prevention plans (SWPPPs) and retain those on site when KDHE issues an industrial stormwater general permit. In these SWPPP plans, salvage yards must identify operational, source control, erosion, and sediment control, and if necessary, treatment or best management practices (BMPs) to control stormwater runoff containing pollutants from their facilities.

Stormwater can be contaminated with pollutants from engines, transmissions, radiators, batteries, brake and power steering systems, and differential gears that contain fluids. Contaminated groundwater from previously contaminated soil and erosion of soil from yards are also considered pollutants. Activities that can generate pollutants include the following:

- dismantling and crushing vehicles
- draining and transferring vehicle fluids
- maintaining vehicles and equipment
- parts cleaning (steam, water, and solvents)
- storage of fluids, used parts, solid wastes (fluff), oil-contaminated scrap parts, and incoming wrecked vehicles

Wastewaters from other operations at yards, for example, high-pressure washers, must be sent to the sanitary sewer (with approval from local sewer authorities), recycled, or treated on site in accordance with regulations for process waters, or tested for hazardous constituents and disposed of accordingly. These industrial process wastewaters may NOT be discharged into a septic tank system, onto the soils, or allowed to flow into surface and groundwaters of the state without an industrial process wastewater

permit. Bathroom wastes must be sent to an approved lagoon or on-site septic system, if city sewers are not available.

Identify your pollutants

What kinds of pollutants are usually expected in stormwater runoff from salvage yards? The following list contains the most common pollutants from salvage yards and the damages they may cause in creeks and rivers:

Oil and grease — Oils contain high levels of organic compounds and heavy metal contamination from engine operation. High levels cause filming on the water surface, restricting oxygen availability to water organisms and fish, and contribute to high biological oxygen demand (BOD) levels.

BOD — This is a measure of pollutants with biological oxygen demand. These compounds are biodegradable in water, such as ethylene glycol (which is poisonous to animals and humans), brake fluids, and alcohols. The process of their biochemical breakdown uses up available oxygen in the water. Low oxygen levels can suffocate fish and other aquatic organisms that help maintain the ecosystem for fish survival.

Suspended solids — Runoff such as dirt, sand, clay, and sediment contains particulate materials that affect the turbidity of water. Increased turbidity decreases the amount of light available to aquatic plants and can be responsible for sharp increases in microbial populations that deplete available oxygen, causing fish kills.

Heavy metals — These can include lead from gasoline and batteries, chromium-contaminated engine oils, and copper or lead in antifreeze solutions. Heavy metals can be toxic to aquatic organisms and tend to bio-accumulate in the food chain, causing health problems for wildlife and humans that consume organisms or fish from waters contaminated with these compounds.

pH — pH is a measure of alkalinity or acidity such as that caused by battery acid or strong cleaning compounds such as ammonia. Polluted runoff can

change pH levels in streams and lakes, and be responsible for upsetting stream ecosystems and fish kills.

SWPPPs are composed of BMPs that prevent or reduce the pollution of surface waters by stormwater runoff from yards.

The first step in controlling pollutants in yard storm water is to determine what kinds of pollutants are present at your yard and what types of BMPs are already in place.

Make a clean SWPPP

The following guideline, divided into five phases, is provided to help you develop and implement your SWPPP:

Planning and organization phase

- Put together a pollution prevention team. A pollution prevention team of one or more individuals must be designated as responsible for developing and carrying out the SWPPP.
- Build on existing environmental management plans such as a spill prevention control and countermeasure (SPCC) program for on-site bulk oil management.

Assessment phase

- Develop a site map that shows where stormwater leaves your yard, shows drainage paths, and identifies pollutant sources (activity sites) and nearby bodies of water that would receive stormwater from your site.
- Prepare a complete inventory of materials on your site that includes a list of materials exposed to stormwater in the past three years; and a description of materials currently on site, their location, type of storage facility, management practices, and any existing structural or nonstructural control measures in place to control stormwater runoff or contact. Structural controls are physical containment systems; nonstructural controls are operational practices to reduce spills or leaks.

- Identify spills and leaks that have occurred in the last three years.
- Identify non-stormwater discharges such as air-conditioner condensate or sanitary wastes.
- Identify existing stormwater sampling results (if any).
- Provide a site evaluation summary to be used as the foundation for the rest of the SWPPP. It should include a description of high-risk activities for stormwater contamination and the type of pollutant associated with that activity.

Best management practices selection and planning design phase

- Identify BMPs based on a common sense approach to improving basic housekeeping methods.
- Establish a preventative maintenance program with recommended operation and maintenance practices to keep machinery and processes running smoothly and efficiently to avoid spills, leaks, or hazardous situations.
- Set up an inspection and sampling schedule to check all best management practices (BMPs) to make sure they are working properly to prevent pollution of the runoff. Inspections are included as a nonstructural BMP to verify the SWPPPs are working.
- Spill prevention and cleanup plans should be developed to handle emergencies that could lead to stormwater contamination. Employees should know who will be involved in the cleanup, how to perform the cleanup, how to identify safety issues, who to notify in case of a spill, and how to dispose of used cleanup materials.
- Identify sediment and erosion-control measures.
- Describe specific methods to control pollution of stormwater from your yard.

- Develop into one final SWPPP document all the maps, assessments, and BMPs indicated above.

Implementation phase of SWPPP

- Develop a schedule to put controls and BMPs into practice.
- Train employees in spill prevention and response, good housekeeping, and material management and handling practices; and designate individuals responsible for each part of the SWPPP.

Evaluation phase

- Perform annual site evaluations to determine if SWPPPs are effective, noting and revising controls that are ineffective at protecting stormwater.
- Record and maintain records of spills, leaks, inspections, and maintenance activities. If spills and leaks have occurred, records should note date and time of event, weather conditions, cause of spill, and resulting environmental problems.
- Make revisions to your SWPPP when controls are found to be ineffective or when changes in the facility's construction, operation, or maintenance activities could affect stormwater.
- Inspect streams downstream of where your stormwater enters during and after a rainstorm. If you see pollution, find the source and correct it if you can.

A highly recommended document for businesses to use in preparing a SWPPP is the EPA guidance document, *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*, document # EPA 833-R-92-002 October 1992. It's available free on the Web at <http://www.epa.gov/npdes/pubs/owm0236a.pdf>.

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The Small Business Environmental Assistance Program's (SBEAP) mission is to help Kansas small businesses comply with environmental regulations and identify pollution prevention opportunities. SBEAP is funded through a contract with the Kansas Department of Health and Environment. SBEAP services are free and confidential. For more information, call 800-578-8898, send an e-mail to SBEAP@ksu.edu, or visit our Web site at <http://www.sbeap.org>. Kansas State University is an EEO/AA provider.