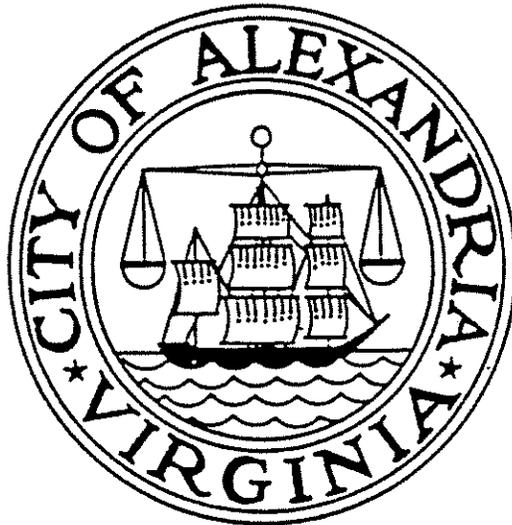


**CITY OF ALEXANDRIA
BEST MANAGEMENT PRACTICES MANUAL
FOR AUTOMOTIVE RELATED INDUSTRIES**



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CITY OF ALEXANDRIA

BEST MANAGEMENT PRACTICES MANUAL FOR AUTOMOTIVE RELATED INDUSTRIES

This brief manual explains how you can operate your shop to reduce the amounts of antifreeze, heavy metals, oily wastes and other substances you discharge into storm drains and sanitary sewers. Understanding and using this manual will help you keep your shop in tune, protect the Bay, and comply with local storm water pollution requirements and wastewater discharge restrictions.

Storm drains and sanitary sewers are two principal routes by which pollutants reach the Chesapeake Bay. Storm drains carry runoff from streets, urban centers, industrial sites and open spaces into local streams, creeks, marshes and Bay waters. Sanitary sewers carry wastes to wastewater treatment plants, but small amounts of some pollutants can still reach the Bay in the treated water.

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KEEP YOUR SHOP IN TUNE

If your shop is tuned up and running smoothly, you will generate fewer wastes. Following the practices described in this manual will help keep heavy metals, oil, grease, and other pollutants out of our streams, the Potomac River and the Chesapeake Bay.

This manual describes specific Best Management Practices (BMP's), and is intended as guidance on pollution control for automotive shops and other automotive-related industries. The management practices are recommended procedures that will assist you in complying with the environmental requirements of the City of Alexandria, as well as those of state and federal agencies. Specific regulations may vary in conjunction with the ordinances in other communities.

This section summarizes the principles behind the BMPs and describes the general guidelines you can use to keep your shop in tune. Specific BMPs are described in the following two sections: Recommended Practices and Advanced Management Practices.

RUN A DRY SHOP

You can comply more easily with sewer and storm water requirements by cutting down on the liquids you discharge. If you are successful, your discharge will be limited to wash water from your lavatories and rain water from your roof and parking lot. Any drains that carry wastewater from your shop must be connected to the sanitary sewer, never the storm drain. The floor drainage may need to be treated before discharge. That may be true for work areas outside the shop as well.

Clean up leaks, drips, and other spills without water whenever possible. Use rags for small spills, a damp mop for general cleanup and dry absorbent material for larger spills. Clean up spills immediately. Avoid hosing or wet-mopping your work areas.

BE A ZERO DISCHARGER

Prevent leaks and spills to avoid wet cleanup. Where possible, use shop equipment that does not produce wastewater, such as enclosed parts cleaners. Reduce or eliminate the hazardous or "hot" waste you need to dispose.

"CLOSE THE LOOP"

A closed-loop system is an easy path to pollution prevention. If you reuse or recycle fluids and other products, they never become a waste to dispose of. Close the loop by purchasing reusable or recyclable materials whenever you can. By sending used liquids to a recycler you can take advantage of special hazardous waste exemptions and cut down on the expense and paperwork

of handling waste liquids. A solvent service can supply solvent and parts cleaning equipment, and collect the spent solvent. Use other closed-loop services for batteries, metal scrap, and shop rags.

TRAIN EMPLOYEES AND KEEP CUSTOMERS INFORMED

Employee misunderstanding about how to handle waste might lead to a costly pollution incident. Make sure that all of your employees understand and implement the practices in this manual. Educate your customers, as well, and prevent them from disposing improperly on your site.

RECOMMENDED PRACTICES TO CONTROL WASTE FROM AUTO SHOP ACTIVITIES

This section contains fourteen BMPs. Each BMP is keyed to a specific shop activity, and describes recommended management practices to control waste from that activity.

As a rule, the BMPs describe "state of the art" practices which should be implemented daily for the indefinite future (except where the practice is not reasonable or economically feasible). Many of these practices are straightforward housekeeping activities, and many may already be in place in your shop. More extensive or costly practices are addressed in the following section, Advanced Management Practices, are not expected to be implemented in every auto shop.

These recommended practices are intended to help you comply with storm water and sanitary sewer requirements. Local requirements may vary, and you should check with your municipal agencies for their pollution control requirements. Municipalities and State agencies, however, have reviewed these practices and agree that they will help you avoid causing pollution incidents and being subject to enforcement actions.

CHANGING AUTOMOTIVE FLUIDS

Drain and replace motor oil, coolant and other fluids in a designated area where there are no connections to the storm drain. Minor spills can be cleaned up before the spill reaches the drains. Some municipalities now require that you do all fluid changes in a double-contained bay with no drain.

Collect the spent fluids, store them separately and dispose of them to a recycler. Store waste liquids as hazardous materials. Be sure to label all containers as to their contents. If you do not recycle, the fluids must also be disposed of as hazardous materials - with the associated high costs, legal liabilities and heavy paperwork.

Brake fluid, transmission fluid, gear oil and similar fluids pose a special problem. These may or may not be recyclable. Check with your recycler and supplier. Some liquids may be acceptable to mix with your recyclable motor oil. For the most part, liquids which don't contain chlorinated hydrocarbons are the least costly to recycle and the most widely accepted.

Radiator fluids usually can be accepted by an antifreeze recycler. You must collect radiator flushing fluid rather than pouring it into your shop drain. Reuse the flushing fluid to minimize waste discharges, If your recycler won't accept the spent flushing fluids, consider changing to another brand of fluid that can be recycled. Only final rinse water, after flushing is completed, may be discharged to the sanitary sewer.

If your shop services air conditioners, you must use special equipment to collect the freon or other refrigerant. One option is an air tight machine that collects the refrigerant as a liquid. Reusing the refrigerant on-site is much less costly than sending it to an off-site recycler.

It is not permissible to vent the refrigerant to the atmosphere.

WORKING ON ENGINES, TRANSMISSIONS, AND MISCELLANEOUS REPAIRS

Use the "dry shop" principle whenever you work on a vehicle. When you spill or drip fluids onto the floor, clean them with a rag, instead of letting them evaporate. To reduce spills use the following practices:

- **Collect leaking or dripping fluids in drip pans or containers. If the fluids are kept separate, usually they may be recycled.**
- **Keep a drip pan under the car while you unclip hoses, unscrew filters or remove other parts. Use a drip pan under any vehicle that might leak while you work on it to keep splatters or drips off the shop floor.**
- **Use larger, flat, low-brimmed pans under cars where mechanics are working and where ordinary drip pans are too cumbersome.**
- **Promptly transfer used fluid to the proper waste or recycling drums. Don't leave drip pans or other open containers unattended.**

PREVENTING LEAKS AND SPILLS

Prevent leaks from vehicles and equipment onto the shop floor by practicing careful housekeeping and minimizing wastes and discharges. Put drip pans under leaking autos while you await permission to repair them, then make repairs as soon as possible. Empty and wipe the drip pans when you move them to another vehicle, or when they are about half-full, to avoid spills.

Maintain your shop floor equipment. Check your equipment at the end of the working day to wipe up spills and to find leaks that need repair.

Be especially careful with wrecked vehicles, whether you keep them indoors or out, as well as with vehicles kept on site for parts, scrap or salvage.

- Place drip pans under vehicles as they arrive even if you believe that all fluids have leaked out before the car reaches your shop. Wrecked vehicles can continue to drip for days.
- If you need it, keep a portable inflatable berm on hand for immediate response. An inflatable berm can be quickly deployed to cover an auto-sized area conveniently.

CLEANING UP SPILLS

When cleaning up after a job or at the end of the week, use dry cleanup practices whenever possible. Use a damp mop for routine cleanup, and wet-mop the floor only in the areas that need it. As a regular practice, avoid cleaning up spills and splatters by wet-mopping the whole floor. This could make your mop water a hazardous waste.

Train your employees in how to respond to a spill.

Small spills can be cleaned up with rags. Avoid paper towels. You can "close the loop" on this waste stream by sending used rags to a laundry service. Inform your laundry of what the shop rags have been used for. Do not saturate rags with gasoline, solvents, or other hazardous liquids.

For medium-sized spills, use dry absorbent material (known as "kitty litter") to soak up the liquids. Use absorbent "snakes" as temporary booms to contain a liquid while you clean it up. (These are sold by waste control equipment manufacturers.) Sweep up the used absorbent and snakes and dispose of them with the "hot" wastes. Or, use wet/dry shop vacuum cleaner to collect spills and dispose of the liquid with the "hot" wastes. If you keep several vacuums on hand, you can designate one for each waste (motor oil, antifreeze, etc.) and recycle the liquid. Do not use vacuums for gasoline, solvents or other volatile fluids because of the explosive hazards.

Larger spills in the shop or outdoors must be contained then cleaned up. Your hazardous materials response plan, filed with your fire department or other hazardous materials ("HazMat") authority, describes how to prepare for and respond to larger spills. If you have a floor drain, it must have an oil/water separator to keep the spill from the sanitary sewer. In the case of a spill notify authorities as required in your emergency response plan. The Alexandria Fire Marshal is the "HazMat" authority and their phone number is 838-4360. In an emergency call 911.

IDENTIFYING AND CONTROLLING WASTEWATER DISCHARGE

Inspect your shop to be sure you have no unauthorized connections to the sanitary sewer or storm sewer. Sanitary sewer connections require the approval of the Alexandria Transportation and Environmental Services Department (their phone number is 838-4324) and the Alexandria Sanitation Authority (their phone number is 549-3381). Both increasingly contend that any discharge requires costly pretreatment. Storm drain connections from indoor drains or sinks are prohibited. (These are known as "illicit connections" and are the subject of enforcement).

Make sure employees do not pour waste liquids into floor drains, sinks, outdoor storm inlets or other connections. Spent or leftover cleaning solutions, solvents, and automotive fluids often are toxic and are not acceptable for the sanitary or storm sewer. Post signs at sinks to remind employees, and paint stencils at outdoor drains to inform customers and others.

FUELING VEHICLES

In general, your fueling area must be designed and operated to minimize spilled fuel and leaked fluids coming into contact with storm water. Steps you can take include:

- Clean up spills with the "dry shop" principle. Spread absorbent material and sweep it up with a broom; dispose of it with your "hot" wastes.
- When you clean the area, use a damp cloth on the pumps and a damp mop on the pavement rather than using a hose. If you spray water from a hose here, the water becomes an illegal discharge to the storm drain.
- Install fuel pump shut-offs as directed by the Alexandria Code Enforcement Bureau. Usually this means an automatic shut-off at each pump, and a manual shut-off inside the building.
- This area should be paved, graded and drain appropriately.

Fuel tanks, including temporary tanks, require permits from the Alexandria Code Enforcement Bureau. They will specify design features such as size of containments. Storm drain and sewer inlets that drain the fueling area can be equipped with a shutoff valve to keep fuel out of the drain in the event of a spill from the pumps.

The parking and approach areas outside the immediate fueling area are also of concern. This area will receive rain, so you can't avoid discharging storm water. The storm water will carry off pollutants from spillage and leakage from parked or waiting vehicles.

- Grade the area to drain to a single storm drain. (This is an advanced practice. If not already in place.) The drain should be on your property, not a city-operated drain in the street. Fit the drain with a Delaware sand filter (see the Alexandria Supplement to the Northern Virginia BMP Handbook) or another type of BMP. You may consult with the City Engineer at 838-4324.
- Immediately clean up spills or leaks using the dry shop approach so they don't contaminate rain water.

REMOVING AND STORING BATTERIES

Return used batteries to your battery supplier, who will recycle them with a battery reclaimer. Batteries sent for reclamation are controlled as a modified category of hazardous wastes. You do not need to file a manifest or pay disposal taxes, but you do need to keep a shipping receipt.

Be careful with cracked or leaking batteries. Store batteries, new and used, either on an open rack (so that you can tell immediately if any are cracked and leaking) or within a secondary containment (as required by some locales). If you handle a large volume of batteries, or if you work on wrecked vehicles so that you commonly handle cracked batteries, take the following precautions:

- Store cracked batteries in a watertight secondary containment, such as a concrete bin with sealer on the floor and walls. Do this with all cracked batteries, even if you think all the acid has drained out, because they may not be completely dry.
- If you drop a battery, treat it as if it's cracked. Put it into the containment until you're sure it's sound.
- Cracked batteries may be shipped for recycling under the special hazardous waste category if they are carried in proper containers.
- Handle spilled acid from broken batteries with care. If you use baking soda to neutralize spilled acid during cleanup, remember that the residue is dangerous and must be disposed of as hazardous waste because it may contain lead and other contaminants.

CLEANING PARTS

Clean parts without liquid cleaner whenever possible. Scrape parts with a wire brush, or use a bake oven if one is available.

Prevent spills and drips of solvents and cleansers onto the shop floor. Perform all liquid parts cleaning at a centralized station so solvents and residues stay in one area. If you immerse parts in liquid, remove them slowly to avoid spillage. Install drip pans, drain boards, and drying racks in a way that directs drips back into the sink or the fluid holding tank. The preferred methods for liquid parts cleaning use zero-discharge equipment, such as:

- Self-contained solvent sinks cycle the liquid directly back into a storage drum. A number of good "closed-loop" services will pick up spent solvent and supply fresh solvent. You must file hazardous waste manifests for transporting the recycled solvents.
- Enclosed parts washers that use filters to remove contaminants can reuse the washing fluid almost indefinitely. Many of these use hot water and detergents instead of hazardous fluids. You need to remove a small amount of oily residue from the machine periodically, which might be hazardous waste.
- Solvent recycling equipment can purify solvents for re-use onsite.

If you prefer to dispose of your own solvent:

- Spent solvent must be disposed of as hazardous waste.
- Never pour spent solvents, solvents, even biodegradable solvents, into your storm or sanitary sewer drain.
- Don't dispose of the solvents by storing them in open buckets for evaporation. This leads to air emissions that are not allowed and produces a residue that is a hazardous waste.

METAL GRINDING AND FINISHING

Capture metal filings produced by grinding or machining metal parts. Enclose the unit as much as possible, and keep a bin under your lathe or grinder to hold the filings. Vacuum up loose chips and metal filings to keep them out of the storm and sanitary sewers. Avoid wet-mopping the machine shop floor. Consider spreading a tarpaulin or plastic liner in the floor to collect metal filings, and then carefully empty the tarp into a storage bin.

Capture filings from asbestos brake shoes in a separate container. Asbestos dust must be handled as hazardous waste, stored in an enclosed container and disposed to a hazardous waste hauler. If you contaminate other metal filings with asbestos, none or the mixture may be sent to ordinary scrap dealers.

STORING AND DISPOSING OF WASTE

The table on the following page summarizes the preferred storage and disposal practices for some common solid, liquid and gaseous wastes. The overriding principle is to keep different kinds of wastes separate. If you recycle used oil, and antifreeze or solvents, you know how important it is to keep them separate so the recycler will accept them. Keep your non-recyclables separate, too.

Store and handle hazardous wastes in special hazardous waste containers, or enclose drums in a secondary containment that is approved by your HazMat authority. You cannot discard these with the regular trash. Select a hazardous waste hauler with care: ask for customer recommendations, and review the firm's permits and authorizations.

You might save money if you use more than one drum to hold different "hot" wastes. Segregating brake fluids, transmission fluids and solvents containing chlorinated hydrocarbons from other hazardous wastes may reduce the cost of shipping and disposing of them. To be sure your aren't violating hazardous waste requirements, don't contaminate sewer discharges and trash with small amounts of "hot" wastes.

In Alexandria the Fire Department's Code Enforcement Bureau, is the HazMat authority that controls hazardous materials storage, handling, and response. For information call 838-4360. For emergencies call 911.

Waste oil, antifreeze, spent solvents and other liquids that you hold for recycling are special categories of hazardous waste. They must be stored on your site in accordance with hazardous waste requirements, but can be transported under somewhat less stringent requirements. Many recycling services have special variances or permits that reduce your paperwork requirements and allow shipping at reduced cost.

If you store materials outdoors keep them under a roof, cover or tarpaulin. Keep solid wastes in a covered dumpster to be picked up by the trash service. Do not let rain water contact old parts, tires or dumpsters. Keep scrap parts and other metals in a shed or under a roof, out of the rain. Oily contaminants can wash off long after you think all the oil has all drained from the parts.

If you keep liquid containers outdoors, keep them on a paved impermeable surface, within a berm or other secondary containment to prevent spills from running off into the yard. This is a good idea even if the liquids are not hazardous waste (and mandatory if they are). Put a lid or cover on buckets or barrels, because any rain that enters becomes an oily waste. Consider keeping all of your waste oil and other hazardous liquids indoors in a locked area, to keep nighttime trespassers away.

Collect waste metal, such as used parts, for delivery to a scrap metal dealer. Deliver metal lathe filings to a scrap dealer also.

Used oil filters need not be handled as hazardous waste if you meet special handling requirements. Oil filters should be drained into your waste oil bin, stored in leak-proof containers, and delivered to a recycling facility.

SELECTING AND CONTROLLING INVENTORY

Careful selection and management of the materials you use can save money and make a big difference in your waste handling and disposal.

Choose materials that can be recycled. For example, avoid transmission and brake fluids that contain chlorinated hydrocarbons if another type is satisfactory.

Whenever possible, choose parts-cleaning solutions and other materials that are non-toxic. Water-based cleaners can provide acceptable cleaning - experiment with concentrations to find one that works. Avoid halogenated compounds, petroleum-based cleansers and cleansers with phenol. These are highly toxic, cause difficult problems if spilled to a sewer connection, and are often costly to recycle or dispose of.

Control your inventory to reduce the wastes you generate. For example:

- Purchase supplies in bulk and keep them in bulk dispensers. This eliminates empty waste containers that, depending on the original contents, may need to be disposed of as hazardous waste.
- Keep on hand only the quantities of materials that you need and use them on a "first-in, first-out" scheme, to avoid the need to discard unopened cans when the materials' shelf life expires.

- Consider reducing the number of different brands or grades of materials that you use to reduce the number of containers.
- Where possible, select suppliers who provide fresh materials and accept the used materials for recycling in order to "close the loop."

AUTOMOTIVE MATERIALS CONTROL CHART

LIQUIDS	RECOMMENDED STORAGE	PREFERRED DISPOSAL	HAZARDOUS WASTE?
Waste Oil	Drum (segregate)	Oil recycler	Special *
Transmission Fluid	Drum (segregate)	Oil recycler	Special *
Gear Oil	Drum (segregate)	Oil recycler	Special *
Solvents (solvent sink)	Solvent Sink	Solvent recycler	Special *
Solvents, thinners, and miscellaneous fluids	Tank ("hot" waste) (segregate)	Fluids recycler (where possible) or waste hauler	Possibly
Brake Fluid	Bottle or tank ("hot" waste)	Hazardous Waste Hauler	Yes
Antifreeze	Tank (segregate)	Recycler	Special *
Paints	Original container, with lid	Hazardous Waste Hauler	Yes
SOLIDS			
Used parts: clean metal scrap	Bin (covered or indoors)	Scrap Collector	No
Used oily parts, fuel filters, etc.	Drum	Hazardous Waste Hauler	Yes
Metal Shavings	Bin (covered or indoors)		
Asbestos Filings	Sealed Bin	Scrap Collector, Hazardous Waste Hauler	No

SOLIDS	RECOMMENDED STORAGE	PREFERRED DISPOSAL	HAZARDOUS WASTE
Tires	Covered or indoors	Tire Hauler	No
Batteries	Open Rack	Battery Supplier	Special *
Oil Filters	Drum (drain first)	Oil Recycler	Special *
Used Rags	Rag bin with lid	Rag Laundry	Possibly
Empty cans, bottles, aerosol cans, etc.	Drum	Trash or Hazardous Waste Hauler	Possibly
Soiled clean-up absorbent gases	Drum	Hazardous Waste Hauler	Yes
GASES			
Air Conditioner Refrigerant	Recycling Machine	Re-use-in-house	No

* Recyclable under special hazardous waste restrictions.

OUTDOOR PARKING AND AUTO MAINTENANCE

If you park vehicles outdoors while they await repair, watch them closely for leaks. If possible park cars indoors or under cover of a roof or shed so storm water does not contact the area. If you park wrecked cars outdoors, or store vehicles outside for salvage or for parts, you may need to create a special area to accommodate them. These areas may require specific design features, such as:

- Pave the surface with concrete, not asphalt. Automotive fluids may dissolve asphalt, or may be absorbed into the blacktop and released later.
- Drain the surface to a single drain connected to this storm sewer. The drain may require a structural B.M.P. The drain must be approved by the Transportation and Environmental Services Department (ph.# 838-4324).

In the City of Alexandria, outdoor automotive maintenance or repair for commercial purposes is strictly prohibited.

VEHICLE WASHING, ENGINE CLEANING, AND AUTOMOTIVE STEAM CLEANING

If you occasionally wash vehicle exteriors with water only (no soap), you need to take only simple precautions with the discharge. Generally you may discharge clean washwater to the storm drain directly. Wash cars next to the drain, and don't allow wash water to flow across a paved parking lot or working area. Or, if you have a landscaped area, wash cars there to avoid any discharge, but be sure all wash water soaks into the soil.

You need to make special efforts if car washing is a main activity such as a commercial car wash, or if you regularly clean trucks or dirty, greasy field equipment.

- Wash the vehicles in a covered, contained bay where the water can be collected and recycled as part of a water conservation program.
- Do not discharge vehicle wash water to a storm drain; this is prohibited.
- You will need a discharge permit from the Alexandria Sanitation Authority phone number is 549-3381. The discharge usually requires treatment such as oil and grease removal, and perhaps metals removal. The treatment unit may also need a hazardous waste permit.

Engine cleaning and steam cleaning should be done on your site only if you are equipped to capture all the water and other wastes. You will need to remove oils and grease in an oil/water separator or a small treatment unit before discharge to the sanitary sewer. This discharge is prohibited from storm drains, requires a permit from the Alexandria Sanitation Authority, and may require you to determine whether the separator is a hazardous waste treatment unit. If you steam clean, use an enclosed bay where the condensed steam can be collected in a sump and treated for discharge.

TRAINING AND EDUCATING EMPLOYEES AND CUSTOMERS

Train your employees to use the practices in this manual. When you first implement them review your current practices to see how they compare, and change your practices where appropriate. Thereafter, assign experienced workers to train new employees. Review procedures as a group at least once a year.

Check employees' work practices to be sure the BMPs are implemented properly. Post signs as reminders, such as notices not to pour liquid wastes into sinks and floor drains. Develop a routine to inspect shop equipment and procedures regularly. A once-a-week walk-through can help identify potential difficulties before they become major problems.

To keep abreast of new developments, participate in workshops, trade association meetings, and seminars. Trade association publications can be valuable sources of information. Modify your practices whenever you find a new idea that serves your shop better.

Encourage your customers to be waste-conscious. Post "don't top off" signs at gas pumps, and stencil "No dumping - flows to Bay" signs at storm drains.

Be aware of customer activities on your site. If they dispose of materials improperly, you will be responsible for the violation. Ask your customers not to discard liquids into your trash cans or storm drains. If you have persistent problems, you may need to monitor your customers more carefully at fuel pumps, storm drains, and other potential disposal areas on your property.

You can help customers dispose of wastes properly if you can accept their spent motor oil and other fluids, either for recycling or for your "hot waste" barrels. Let your customers know how you are minimizing wastes and recycling fluids to show that you are a "good neighbor," and encourage your customers to be the same.

ADVANCED MANAGEMENT PRACTICES TO CONTROL POLLUTION FROM MORE SEVERE PROBLEMS

You will need to consider installing advanced management practices if you have implemented all of the recommended practices that are reasonable and economically feasible and still have not controlled pollutants sufficiently to meet your local discharge requirements.

This section describes controls that are more extensive and, in general, more costly than the recommended everyday practices in the previous section. Not all of the advanced practices are necessary for every shop, and some will not be of use in some shops. Advanced pollution control practices take a number of forms, and may include a wide range of solutions that are not listed here. You may develop other approaches that are more effective for your facility.

If you are renovating your shop or building a new facility, you should evaluate installing some of these structural controls even if the shop does not currently have a major pollution problem. Some of the measures in this section are much less costly to install during new construction than to retrofit afterwards. If you put off implementing the measures, future more-stringent requirements may require retrofits at a much higher cost.

PRETREAT WATER DISCHARGED TO THE SANITARY SEWER

If the Alexandria Sanitation Authority finds that your discharge is more contaminated than it can accept, you may need to install equipment to treat wastewater before discharging. (This is known as "pretreatment" to the wastewater authorities.)

For most shops, the best advice about on-site treatment is to avoid it. Most of the available treatment equipment is costly to purchase and operate, and permitting procedures are also costly. The best way to avoid the need for pretreatment is conscientious implementation of the BMPs in this manual, attention to the sources of waste at your facility and careful minimization of shop wastes.

If you must pretreat and discharge wastewater, you will need a permit from your Alexandria Sanitation Authority.

The most troublesome permitting procedure is for hazardous materials. Before installing any treatment, determine whether your wastewater is a hazardous waste. If the wastewater that enters the pretreatment equipment is considered to be hazardous, you must obtain a permit to operate a hazardous waste treatment facility. Remember that not all wastes that are unacceptable for the sanitary sewer are classified as hazardous, and some may be disposed by less costly means if your testing verifies they are non-hazardous.

An oil and grease trap is one type of pretreatment device and is generally the least expensive method. An oil and grease trap is a sanitary sewer inlet with a catch basin that has a baffle to prevent oils and grease from flowing to the sewer. Traps can be fitted to inlets in a variety of configurations. A trap removes the bulk of floating oily wastes, but does not remove oil as completely as a more sophisticated treatment process. An oil and grease trap is most useful for water containing low or moderate concentrations of oily wastes, especially if the oil is floating and not well-mixed. Traps do not work well for mineral oils, which are a prohibited discharge.

If you install an oil and grease trap, it must be maintained regularly to retain its effectiveness and to avoid spilling oily wastes. Remove the collected oils and grease at least monthly, and dispose of them as hazardous waste. If the inlet includes a sediment trap remove solids with a shovel between storms.

An oil/water separator is a treatment device that removes oils and greases from water, generally with greater removal efficiency than an oil and grease trap, but is more costly to purchase and operate. A separator is useful for relatively high concentrations of oil at lower and less variable flow rates than storm water.

Often, it is less costly to dispose of a liquid as a hazardous waste than to install an oil/water separator. A separator may be cost-effective for a moderately large quantity of wastewater.

An oil/water separator is the kind of equipment that is intended to be covered by both local and state hazardous waste rules. If the waste stream that enters the separator is hazardous, you must follow the permitting process for hazardous waste treatment facilities. If you determine that the waste stream is not hazardous, and do not apply for a hazardous waste treatment permit, be sure to keep your testing documentation on hand to show State and City regulators.

INSTALL ROOF OVER FUELING AREA

Install a roof to keep storm water off potentially contaminated areas on your site. You can keep pollutants out of the storm drains by preventing rainwater from contacting these surfaces.

Self-service fuel pumps are often roofed as a customer courtesy. Install a larger roof to keep direct rainfall off the parking spaces next to the pumps as well as the fueling island. Route the roof downspout directly to a storm drain to prevent runoff from washing over the fueling area or the approach lanes.

Construct a shed or roof over areas where you park cars awaiting repairs, "parts" cars, or wrecked vehicles. Drips and leaks accumulate in these areas, and can be a source of contaminants even when no vehicles are parked there.

RE-GRADE OR RE-PAVE OUTDOOR AREAS

Strategic grading of parking lots and outdoor spaces can be used to prevent run-on storm water from contacting potentially contaminated areas. Run-on is water that flows from elsewhere across the problem area, and then carry contaminants to the storm drains. Examine your site to identify areas of concern that might contribute pollutants to storm water such as the area around fuel pumps; areas where wrecked vehicles have been parked; areas that were once used for outdoor service; and others.

Grade a parking lot or an approach to fuel pumps to "mound" the fueling area and prevent run-on. Longterm parking areas and places where wrecked vehicles are parked can also be mounded, or can be surrounded by a berm or speed-bump-sized barriers.

Use concrete paving instead of asphalt in areas where autos may leak fluids such as fueling islands, former or current outdoor work spaces, and heavily used parking areas. Asphalt absorbs organic contaminants and can be slowly dissolved by some fluids. Overtime, these two effects can cause the asphalt paving to become a source of stormwater contaminants.

You may need to remove asphalt paving that has been in place for a long time in heavily used areas. Replace it with concrete if you intend to continue using it as a working space. To determine whether you need to remove the asphalt, you can sample the runoff and have it chemically tested.

Grade the area to drain to a single storm drain. (This is an advanced practice. If not already in place.) The drain should be on your property, not a city-operated drain in the street. Fit the drain with a Delaware sand filter (see the Alexandria Supplement to the Northern Virginia BMP Handbook) or another type of BMP. You may consult with the City Engineer at 838-4324.

RECYCLE SPENT FLUIDS ON-SITE

On-site equipment to purify and recycle spent automotive fluids can fully "close the loop" and avoid generating a hazardous waste. The residue from the process generally is a hazardous waste.

Solvent recycling distillation equipment can distill solvents to almost as high a level of purity as that produced by large hazardous waste treatment facilities. Stills can extend a solvent's lifetime almost indefinitely.

Antifreeze reclamation equipment is made in a wide range of designs, with varying equipment costs and varying quality of results. Simple units merely filter out impurities, and can extend the life of the antifreeze only a short time. More costly equipment can distill antifreeze to nearly-new quality so you can reuse it in another vehicle.

IMPORTANT PHONE NUMBERS

<u>SUBJECT</u>	<u>CONTACT</u>
Spills and other Emergencies	911
Fuel Tanks	Code Enforcement, 838-4360
Recycling	T&ES Department, 751-5872 (Recycling Office)
Sanitary Sewer Discharges	Alexandria Sanitation Authority, 549-3381 Code Enforcement, 838-4360, T&ES Department, 838-4324
Storm Sewer Discharges	T&ES Department, 838-4324, Virginia Department of Environmental Quality, 490-8922
Building Construction	Code Enforcement, 838-4360
Sites Construction	T&ES Department, 838-4324
Hazardous Substances	Code Enforcement, 838-4360
General Best Management Practices Questions	T&ES Department, 838-4324