Problem Wastes

For Property Managers

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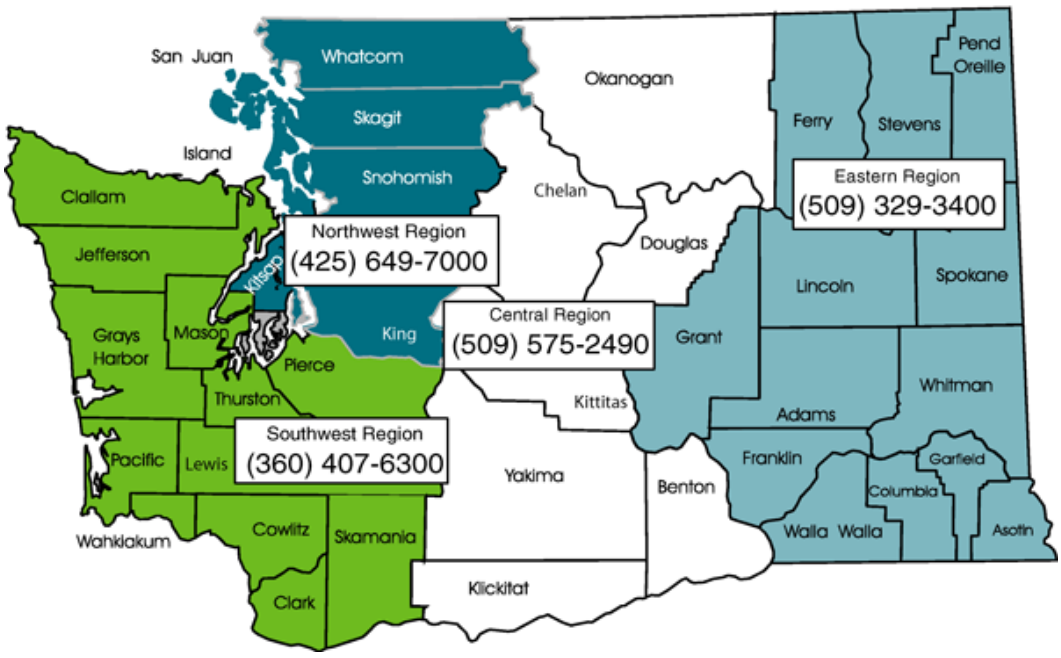

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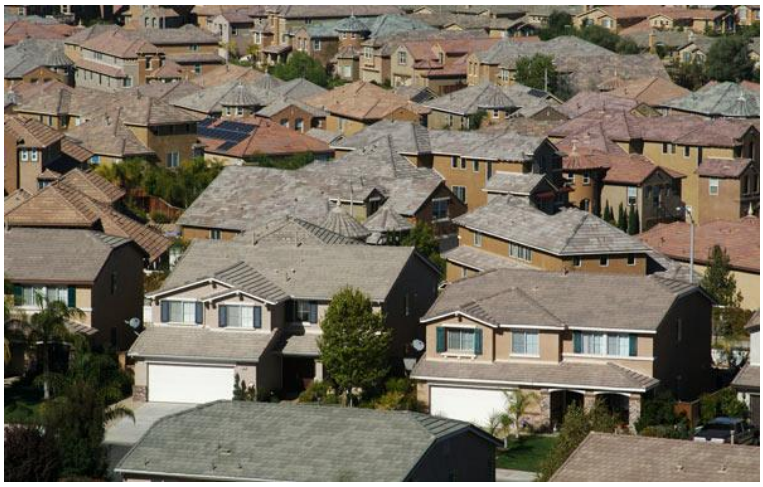

If you manage commercial properties, there is a good chance that you will be responsible for a variety of potentially dangerous wastes left behind by tenants or contractors. Office, retail, and industrial tenants often produce wastes that require special handling. Problem wastes may also be generated during remodeling, construction, demolition, and routine property maintenance activities. Proper management of these dangerous wastes is necessary to protect human health and the environment, and to comply with Washington's *Dangerous Waste Regulations*.

Spills of toxic materials into the environment directly increase the risk of contaminated stormwater runoff. During economic downturns, some businesses stockpile dangerous wastes and pay less attention to keeping toxic chemicals out of the environment. A few illegally dump or bury them. Some will go out of business, leaving toxic chemicals behind that can contaminate stormwater and find their way into waterways, including streams, rivers and Puget Sound.

Managing your properties requires also managing the dangerous materials and wastes that are on the premises, to avoid the potential risks to people and the environment. This guide is to help you identify and properly manage common problem wastes.

A list of common wastes you may need to handle or dispose of can be found in Appendix A on page 17.

County air authorities and moderate risk waste contacts are listed in Appendix B on page 19.

Asbestos

Asbestos is commonly found in "popcorn" ceilings, furnace and plumbing insulation, siding, and floor tiles.

Local Air Pollution Control authorities and the Washington State Department of Ecology (Ecology) regulate the handling of asbestos, including removal, encapsulation, and disposal. To get more information on asbestos removal, call the local air pollution control authority or Ecology's Air Quality Program regional office with jurisdiction in your county. Phone numbers are listed in Appendix B, on page 19.

Removing and disposing of asbestos

You do not need to remove asbestos that is in good condition. If asbestos is damaged or will be disturbed during a remodel or repair job, it should be removed or encapsulated by a certified asbestos worker.

You need to get a removal and disposal permit from your local air authority or Ecology' Air Quality Program and follow the requirements for removing and properly packaging waste asbestos. You also need to file:

- A notification form from your local air authority.
- A "Notice of Intent to Remove or Encapsulate Asbestos" from the Washington State Department of Labor and Industries (L&I). Go to www.lni.wa.gov/Safety/Topics/AtoZ/Asbestos/ProjectForm.asp.
- Landfill disposal permits and receipts.
- Air monitoring results taken during and after removal.

When asbestos-containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems.

Breathing high levels of asbestos fibers can lead to an increased risk of:

- Lung cancer.
- Mesothelioma, a cancer of the lining of the chest and the abdominal cavity.
- Asbestosis, scarring of the lungs with fibrous tissue.

Companies that remove asbestos

To find companies that offer asbestos removal services, look in the yellow pages of the telephone book under *Asbestos Abatement*. Make sure you choose a company that is properly certified, bonded and insured, and has handled projects like yours before.

You can access the Hazardous Waste Services Directory, which lists companies that offer asbestos management, at http://apps.ecy.wa.gov/hwsd/default.htm.

Abandoned and Unknown Wastes

Different types of waste have different requirements for labeling, treating, storing, disposing, and transporting. For example, you may be able to handle a container of waste solvent differently than a container of waste antifreeze, even though both are dangerous waste. Under state and federal law, generators must identify waste hazards and share this information with employees, transporters, and facilities that treat or dispose of the waste.

Where to get started

- If you cannot get a tenant to identify and claim the waste, you must have the waste tested.
- In the meantime, before the laboratory analyses come back, store and manage the unknown waste as a dangerous waste. Store the waste so accidental releases do not reach the environment.
- Label the container with the date of the sampling and the words "Waste Pending Analysis."
- Keep a log. Record the date of discovery, the date samples were shipped to a testing facility, and testing facility information.
- If the test indicates you have a dangerous waste, manage it according to the regulations.

Testing laboratories

Laboratories that can analyze unknown wastes can be found in the yellow pages of the telephone book, under *Laboratories - Analytical and Laboratories - Testing.* Many of the waste management companies that are listed in the yellow pages can both test the waste and manage it for you.

You can also find laboratories and waste management companies in the Hazardous Waste Services Directory, at http://apps.ecy.wa.gov/hwsd/default.htm.

Antifreeze

Antifreeze is an ethylene glycol-based coolant used as a heat exchange medium in motor vehicle radiators, motorized equipment, and in other industrial processes.

Ecology regulates used antifreeze as a dangerous waste. You must manage it in a way that does not pose a threat to human health or the environment.

Managing and recycling used antifreeze

- Ensure that you keep used antifreeze in containers that are in good condition, closed, and labeled.
- Do not mix antifreeze with other wastes.
- Do not dispose of antifreeze to the ground, sanitary sewer, or storm drain, and do not evaporate antifreeze as a means of disposal.

For more on recycling antifreeze see WAC 173-303-522.

Where to recycle antifreeze

You can find businesses that recycle used antifreeze in Washington in the Hazardous Waste Services Directory online at http://apps.ecy.wa.gov/hwsd/default.htm.

Contaminated Sites and Soils

Prevent Contamination

Reduce the likelihood of soil contamination by working with commercial and residential tenants. Properly managing, storing, and disposing hazardous materials and dangerous wastes may help reduce your potential liability as well.

- Reduce the risk of a release to the environment by securing dangerous wastes in containers that are in good condition.
- Find out if your property is currently contaminated. A brochure entitled, *Hazardous Waste Considerations in Real Estate Transactions*, publication number f-tcp-92-115 (online at www.ecy.wa.gov/biblio/ftcp92115.html) includes suggestions for record review, site inspections, and limiting liability. You can also get this publication from your nearest Ecology regional office.
- Prevent future contamination by evaluating how tenants handle their hazardous materials and dangerous wastes. Establish a formal written agreement between you and your tenants — perhaps a compliance provision in the lease agreement regarding compliance with dangerous waste regulations.
- Keep dangerous wastes out of septic systems, storm drains, and sewer systems.

Cleaning up contaminated sites and soil disposal options

The state Model Toxics Control Act sets requirements for cleaning up contaminated sites (See Chapter 173-340 WAC).

- Report contaminated sites to Ecology within 90 days of discovery. How you handle contaminated soil depends on what it contains and the amount of contamination.
- You must report spills or other releases of hazardous substances to the environment to Ecology within 24 hours. *Reporting Releases of Hazardous Substances*, publication number r-tc-94-133 provides detailed information on this subject and is available at www.ecy.wa.gov/biblio/rtc94133.html.
- Test contaminated soils. Remediation measures depend on the type and extent of contamination.
- Cement manufacturers can use soils mildly contaminated with oil. Other contaminated soils or materials may need to be disposed as dangerous waste. Consult with an Ecology representative or your county or city health department representative before disposing of contaminated materials.

Helpful contacts

- To find private companies that provide soil testing, consulting, and remediation services, look in the yellow pages of the telephone book under *Environmental and Ecological Services, Laboratories – Testing, or Waste Management*.
- Look under *Labs & Testing Services* or *Soils & Groundwater Remediation* in Ecology's online Hazardous Waste Services Directory at http://apps.ecy.wa.gov/hwsd/default.htm.
- To get technical advice on options for managing contaminated materials, consult with your nearest Ecology Regional Office or your county or city health department.

Cleaners, Detergents, and Disinfectants

Managing cleaners, detergents, and disinfectants

If you find unused cleaners, detergents, or disinfectants:

- Attempt to find a way to use them rather than dispose of them.
- Never put them down a septic system, storm drain, dry well, or on the ground.

- Do not put them in drains that lead to the sanitary sewer system unless you have discussed it with your local sewer agency representative and the waste products meet local limits for hazardous constituents.
- Consider listing them with the Industrial Materials Exchange (IMEX); call (206) 263-8465 or go to www.govlink.org/hazwaste/business/imex.

Fluorescent Light Ballasts

Polychlorinated Biphenyl (PCB) Ballasts

Ballasts made before 1978 probably contain oil with PCBs. The safest bet is to recycle all your fluorescent light ballasts. *Ballasts should not be disassembled*. Recycle or dispose of intact ballasts at a U.S. Environmental Protection Agency (EPA) facility permitted to accept PCB wastes. You can ship them yourself, or use a waste management.

Ballasts marked "Non-PCB" still contain PCBs but disposal is not regulated by EPA under the Toxic Substances Control Act (TSCA). These ballasts designate as WPCB waste and must be disposed or recycled as dangerous waste.

No PCB Ballasts

Ballasts marked with "No-PCB" do not contain regulated levels of PCBs but sometimes contain a replacement called DEHP (di-2-ethylhexylphthalate). DEHP has been classified as a probable human carcinogen. Ballasts containing DEHP may designate as a Washington Toxic dangerous waste.

By 1985, most manufacturers stopped using DEHP in ballasts for 4-foot fixtures, but continued using them until 1991 in other fixtures.

Unless you are confident you have a ballast without DEHP you should dispose or recycle "No-PCB" ballasts as dangerous waste. Contact your local solid waste department for acceptance criteria before disposing of any ballast as solid waste.

Where to recycle fluorescent ballasts

A list of businesses that recycle used fluorescent ballasts is provided in the Hazardous Waste Services Directory, available at http://apps.ecy.wa.gov/hwsd/default.htm. Search under *PCB Management*.

Fluorescent Tubes and Compact Fluorescent Light Bulbs (CFLs)

Recycle them

Fluorescent tubes and CFLs contain recyclable and recoverable resources, including glass, metal, phosphor powder, and mercury. Ecology strongly encourages the recycling of fluorescent tubes and CFLs. You can take them directly to a company that distills and recycles the mercury.

Fluorescent tubes contain mercury, a federally-regulated hazardous substance.

Mercury released into the air can accumulate in plants, fish, and humans. Children and fetuses are vulnerable to the effects of the toxic metal, which can damage the developing nervous system.

Dispose of them properly

Some counties do not allow fluorescent lamp disposal in municipal solid waste landfills. If a generator chooses to go this route, Ecology recommends properly repackaging or wrapping the bulbs to minimize breakage. Contact your county or city health department before attempting to dispose of fluorescent tubes in a municipal solid waste landfill.

Some fluorescent lighting may be dangerous waste because of its mercury content. Landfilling is not a recommended option. It makes more sense to manage these types of dangerous wastes under the much easier, streamlined Universal Waste regulations www.ecy.wa.gov/biblio/98407c.html. With the universal waste option, wastes can be accumulated up to a year, no hazardous waste manifest is needed, and the tubes can be self-transported to a recycler.

Where to recycle fluorescent tubes

A list of vendors that recycles used fluorescent tubes (and ballasts) is provided in the Hazardous Waste Services Directory, available at http://apps.ecy.wa.gov/hwsd/default.htm.

Freon (CFCs)

Managing and Recycling Freon

- If you use more than one type of chlorofluorocarbons (CFCs), don't mix them together.
- If you do off-site recycling of CFCs used in cooling, you are required to follow hazardous (dangerous) waste transportation requirements.
- If you use CFC-containing solvent, the spent solvent must always be handled as dangerous waste (even when recycled).

Freon and other chloro - fluorocarbons (CFCs) are used in refrigeration and cooling systems. These gases cannot be vented or evaporated into the air since they damage the ozone layer. CFCs must be recycled, either at your site or by an approved recycler.

How to recycle used appliances

Compressors in refrigerators and other coolers contain oil with CFCs in suspension. This oil must be reclaimed, handled as dangerous waste, or if the used oil rebuttable presumption[1] can be successfully rebutted, then as used oil. Any company that takes your appliance should properly handle CFCs and compressor oil as well as recycling the metals.

Try to give it away

Sometimes the King County Industrial Materials Exchange can find a company that wants used CFCs. Call IMEX at (206) 263-8465.

Where to recycle CFCs

Businesses that recycle CFCs are listed in the Hazardous Waste Services Directory available online at http://apps.ecy.wa.gov/hwsd/default.htm. Look under *CFC & Refrigerant Management*.

For more information about recycling CFCs refer to WAC 193-303-506.

Leftover Paint

Each year an estimated 64 million gallons of leftover paint are sent to landfills nationally. Sending large quantities of usable product to landfills is a waste of natural resources. Most of this paint could be recycled or reused.

Latex paint

Use leftover paint for touchups, primers, or undercoats. If you can't use it, give it to someone who can. Nonprofit organizations can sometimes use the paint. List large quantities with King County's Industrial Materials Exchange at (206) 263-8465.

Non-dangerous waste latex paint can be dried in the can or on boards and put in a covered dumpster. Put cans containing non-dangerous dried-out paint and empty cans in the dumpster.

House paint manufactured before 1992 likely contains mercury and should be either handled as dangerous waste or tested and cleared prior to disposal.

[1] More about the rebuttable presumption can be found in Ecology publication, *Best Management Practices for Used Oil – Definitions and Prohibitions* #1, #06-04-033, available online at www.ecy.wa.gov/biblio/0604033.html.

Wash-up water

Put non-dangerous waste latex paint wash-up water into the *sanitary sewer* (but not the storm drain or septic system). Contact your local sewer utility if you want to discharge large quantities (e.g., 100 gallons) of latex paint wash water.

Water-based specialty paints

Acrylic latexes, sign paints, and other water-based specialty paints should be evaluated for their hazardous properties before disposal.

Oil-based paint

Oil-based paints, stains, and thinners are usually dangerous wastes. If they cannot be used or donated, use a licensed waste management company for proper disposal. Check the yellow pages under *Environmental and Ecological Services* or in the Hazardous Waste Services Directory available online at http://apps.ecy.wa.gov/hwsd/default.htm.

Lead-based Paint

Lead from paint chips and dust can pose serious health hazards if not handled properly. Lead paint dust from scraping and sanding is a primary cause of lead poisoning. Lead exposure can harm young children and babies even before they are born.

In 1996, the worst case of severe lead poisoning reported to the Center for Disease Control was a residential painter. The follow-up investigation suggested that the primary exposure occurred while the worker used a mechanical sander to remove paint from the exterior of a house. He didn't wear a respirator, and frequently smoked cigarettes while working[2].

Where do you find lead-based paint?

Most housing built before 1978 probably contains some lead-based paint. Homes built prior to 1960 will have even higher concentrations in the paint (as high as 50 percent lead by weight) than those built between 1960 and 1978. Lead-based paint can also be found in playground equipment, offices, schools, hospitals, bridges, water towers, manufacturing plants, cranes, and boats. House paint manufactured before 1992 may also contain mercury. To find out for sure, the paint must be tested.

[2] MMWR, April 25, 1997 Vol. 46/No. 16; p. 360

Paint containing lead is a problem if it peels, cracks, chips off, or creates dust. Don't dry sand, dry scrape, or burn lead paint. Lead dust forms at friction points on windows (such as window sashes rubbing against the jamb), doors, or stairs. Lead dust can accumulate on surfaces that are difficult to clean (such as under baseboards). Remodeling activities can release accumulated lead dust.

Regulations governing removal of lead-based paint

If you are removing lead-based paint, you need to follow specific requirements to protect workers, residents, children, yourself, and the surrounding environment. The L&I consultation group can help you with worker safety requirements. To get help with lead abatement regulations, health hazards associated with lead abatement, and questions about where to dispose of lead based paint, call your county or city health department.

Paint chips, dust, and paint removal wastes containing lead will likely be regulated as dangerous waste and must be collected for disposal. Contact your county or city health department or Ecology for dangerous waste management guidance and information about how to cut down on the amount of dangerous waste you generate. Here are a few suggestions:

- Get the training you need to paint, clean, and remove paint containing lead.
- Know what you're going to do before you start.
- Use high-efficiency vacuum systems to collect dust.
- Choose blasting materials that can encapsulate heavy metals.
- Use paint-stripping methods that don't generate dust.
- Investigate equipment that can remove paint in a totally enclosed system.

DO NOT use a heat gun at temperatures of 700 degrees or greater or an open flame torch, to remove lead-based paint. Heat guns pose a fire hazard and create a dangerous lead fume that is very easy to breathe in.

Lead-based Paint Removal

Mechanical Operations

Mechanical paint removal operations (such as sanding, scraping, using a needlegun, or blasting) create dust, paint chips, and spent grit. These methods are not recommended for lead-based paint. Non-hazardous paint chips, dust, and spent grit require a clearance before they can be put in the dumpster or at a municipal landfill. Call your county or city health department for authorization and testing information.

Chemical Stripping

Waste from chemical paint stripping should be handled as dangerous waste. Use a licensed waste management company.

Hydroblasting and Pressure Washing

Never discharge water from hydroblasting or pressure washing painted surfaces to the ground, the storm drainage system, ditches, into septic systems, or to local creeks, rivers, lakes, or Puget Sound. Never discharge anything other than uncontaminated rainwater into these systems. You need to collect the wastewater and paint chips.

When starting your hydroblasting or pressure washing job, start with a test portion first. Set up tarps, booms, sump pumps or other means to collect all the wastewater from the test. Sample the water, and have a lab analyze it for total metals. Submit the test results to your local sewer or utility district.

If the test results are within local limits, you may receive a discharge authorization to dispose of the wastewater to the sanitary sewer. The wastewater will need to be collected and separated from the paint chips (see paint chip disposal guidance above).

If the total metal levels are too high for sanitary sewer discharge, the collected wastewater may be treated to meet the limits (dispose of sludge as dangerous waste). You may prefer to have a licensed waste management company dispose of it.

Additional Information

- To find waste management companies, consult the Hazardous Waste Services Directory, online at http://apps.ecy.wa.gov/hwsd/default.htm.

- To find local hazardous waste consultants, refer to your phone book's yellow pages under *Environmental and Ecological Services*.

- To request a consultation regarding worker safety, contact L&I at www.lni.wa.gov/Safety/Basics/Assistance/Consultation/consultants.asp.

Solvents

Solvents are often volatile, flammable, and toxic. Exposure to solvents is a common chemical health risk in the workplace. Solvents may damage the liver, kidneys, heart, or nervous system. High exposure may even lead to unconsciousness and death. Solvent emissions contribute to ozone depletion and global warming and when spilled or disposed of improperly, can contaminate soil and groundwater.

Solvents are commonly used in automotive-related businesses to clean grease and oil off of automotive parts. Solvents are used in many other businesses as well for cleaning purposes.

There are a wide variety of solvents in use, including mineral spirits, stoddard solvent, petroleum naptha, xylene, methylene chloride, and others. Parts washer solvent tanks are often provided by waste haulers. As soon as the waste hauler replaces the spent solvent with fresh solvent, the spent solvent is generally considered dangerous waste.

Special considerations for managing spent solvent

- Used spent solvent must be managed in a way that does not pose a threat to human health or the environment.
- Assume spent solvent is dangerous waste. Don't dispose of it to drains, the air, or the ground.
- Don't mix solvents with other wastes, and keep different types of solvents in separate, labeled, and closed containers.
- Keep solvents out of used oil.
- Don't evaporate solvents as a means of disposal.
- Prevent spills, clean up those that do occur, and report them to Ecology.

Where to recycle solvents

Businesses that recycle waste solvents are listed under *Solvent Waste Management* in the Hazardous Waste Services Directory, at http://apps.ecy.wa.gov/hwsd/default.htm.

Stormwater and Grit

Do you know where your drains go? You should. What can go down your drain depends entirely on where it goes. Putting the wrong materials down your drains violates the law and may harm the environment and human health. It could lead to costly clean-up, liability, and bad publicity. It may also cause your drains to back up and flood your property.

Identify where your drains lead

- Most outdoor drains, such as those in your parking lot, lead to the storm drainage system. Assume that any outdoor drain is a storm drain unless you can verify that it leads to the sewer, or a combined system that carries both sewage and stormwater run-off.
- Most indoor drains are connected to the sewer, or to a septic system in areas not served by the sewer. However, some indoor drains lead to a dead-end sump. Also, some old buildings may have illegal connections that discharge indoor wastewater to a storm drain.
- If you're not sure where your drains lead, check your building's "as-built" plans, if available, or call your local sewer or storm drainage agency for help.

Manage materials near your drain

- Maintain a dry floor and seal drains where hazardous materials could spill.
- Clean up spills of waste with dry absorbent and place in sealed containers for proper disposal.
- Mop water from cleaning can usually go to the sanitary sewer. Check with your sewer authority.

Follow the restrictions for different drains

- The storm drainage system is meant to carry only uncontaminated stormwater run-off, since it conveys the water, without treatment, to rivers, groundwater, and Puget Sound. Never discharge oil, antifreeze, detergents, or other materials to a storm drain.
- The sanitary sewer system carries wastewater to a sewage treatment plant but it still matters what goes down the sanitary sewer. The treatment process isn't designed for all pollutants. Certain wastes are prohibited altogether. Check with your local sewer agency before discharging anything down a sanitary sewer other than domestic sewage (wastewater from restroom and kitchen plumbing).
- Septic systems provide on-site treatment and disposal for certain liquid wastes. Never put industrial wastewater or hazardous chemicals down a drain leading to a septic system.

Maintain the structures below your drains

Most local drainage agencies have specific maintenance requirements for businesses within their jurisdiction.

- *Sumps* are holding tanks that provide a way to collect liquids, such as washwater or spilled materials. Sumps should not be connected to storm drains or septic systems and should not be discharged to the ground. Sumps need to be pumped out and the contents disposed of periodically.

- *Catch basins* are located beneath many, but not all, storm drain gates. They are underground boxes designed to pass water through an outlet pipe while trapping sediment that settles to the bottom. Clean out the sediment in catch basins periodically so they continue to function properly.

- *Oil/water separators* are designed to remove oil and sediment from water before it's discharged to the storm drain or sewer system. Keep the oil/water separator working properly by never dumping waste materials into it. Check the separator regularly to determine a clean-out schedule, and have the unit pumped out when the sludge is six inches deep in the first compartment or if floating oil is in the outlet chamber.

- *Detention facilities* are structures that temporarily store stormwater run-off and release it at a controlled rate to reduce the chance of flooding and stream-bank erosion. Detention systems need to be cleaned periodically.

Sump and tank cleaning

A list of businesses that clean sumps and tanks are listed under *Sump and Tank Cleaning* in the Hazardous Waste Services Directory, at http://apps.ecy.wa.gov/hwsd/default.htm.

Underground Storage Tanks

There are two types of underground storage tanks (USTs). **Heating oil tanks** contain oil to heat buildings, and **storage tanks** contain used oil or other substances. Different regulations apply to each. The term "tank" includes concrete sumps as well as tanks built out of steel or fiberglass.

Heating oil tanks

Heating oil tanks are usually 300-500 gallons. As they age, the chance of leakage increases. The failure rate of a 40-year old tank is 80 percent.

Are they regulated?

If the underground tank contains heating oil and the oil is used on the premises where it is stored, the tank is not regulated by Ecology. If the heating oil is not used on the premises where it is stored, call your local Ecology regional office.

Insurance program

The state provides insurance to cover the cost of cleaning up leakage from underground heating oil tanks. To be eligible for the insurance, the tank must be in active use and must be registered. Call the Pollution Liability Insurance Agency at (800) 822-3905 for more information. Industrial or production use heating oil tanks aren't covered by the program.

Storage Tanks

USTs that store gasoline, diesel, used oil or hazardous substances are regulated by Ecology if the capacity of the tank is 110 gallons or more. Contact Ecology to obtain a permit to operate regulated tanks and to get requirements for removal.

Spills

Spills or overfills should be cleaned up immediately. If the petroleum product or hazardous substance comes in contact with soil, groundwater, or surface water, the spill must be reported immediately to Ecology. Otherwise, it must be reported within 24 hours.

Removal of tanks

Before removing an underground heating oil or storage tank, check with the local fire marshal. Some cities/fire districts require permits for removal or have other requirements.

To get information about requirements that apply to regulated tanks (USTs over 110 gallons), call Ecology and ask for an inspector in the Underground Storage Tank program.

To find removal firms, look in the yellow pages of the telephone book under *Tanks – Removal and Environmental and Ecological Services and Waste Disposal – Hazardous.*

Businesses that clean or remove tanks are listed under *Underground Storage Tanks* in the Hazardous Waste Services Directory, online at http://apps.ecy.wa.gov/hwsd/default.htm.

Used Oil

Used oil is insoluble, persistent, and laced with toxic chemicals and heavy metals. Oil sticks to everything from beach sand to bird feathers. It floats on and pollutes our waterways. It is slow to degrade and evaporate. Even a small amount can seriously contaminate large quantities of drinking water. But by recycling it, you can protect the environment AND save energy and non-renewable petroleum resources.

Used petroleum-based and synthetic-based oil (motor, hydraulic, gear, and lubricating oils) can be recycled by following special requirements of the dangerous waste regulations. It can also be reused as fuel in certain incinerators and heating units, as long as it doesn't contain contaminants such as polychlorinated biphenyls (PCBs), chlorinated solvents, or heavy metals.

Used oil contaminated with solvents, sediments, additives, PCBs, heavy metals, and/or water may be difficult to recycle. If the oil has been mixed with dangerous waste, the resulting mixture must be handled as dangerous waste.

Some tips:

- Don't mix oil with solvents or other contaminants, including water.
- Store used oil in separate containers that are clearly marked "Used Oil."
- Use a vendor that recycles the oil according to state requirements.

For more information on managing used oil, refer to WAC 173-303-515.

Storage

Store used oil containers under cover if possible. Even closed containers with threaded bungs have problems if there is standing water on top of the container. Water traces the threads into the container and displaces the used oil back out the threads and onto the drum tops, and eventually the ground.

Used oil (and dangerous waste) should be stored in an area with an impermeable floor so that leaks or spills are not released to the environment.

Where to recycle

Refer to the yellow pages in your local phone book under *Oil - Waste*. Ecology also lists businesses that recycle used oil under *Used Oil Management* in the Hazardous Waste Services Directory available online at http://apps.ecy.wa.gov/hwsd/default.htm.

Oil from households

Tenants may generate uncontaminated motor oil when servicing cars. This oil can be brought to used oil collection centers. Call your county or city health department for more information or location of used oil collection centers.

Appendix A

Problem wastes often generated by professional and office tenants

Architects	Ammonia (blueprinting), ink, solvent, and glue.
Dentists	Amalgam, lead foil/aprons, spent x-ray fixer, disinfectant, and mercury. Sharps and other biomedical waste also require special handling.
Medical clinics	Solvent, medications, and disinfectant.
General offices	Computers/monitors (lead in glass, heavy metals in circuit boards, flame retardants in plastic casing), batteries, cleaners, glue, ink, toner, and solvents.
Parking garages	Oily wastewater, detergent, gasoline and oil (spills), catch basin grit, and maintenance supplies (in storage closets).
Retail/commercial tenants	Varies according to type of business.

Problem wastes often generated by retail/commercial/industrial tenants

Artists	Paint and solvents.
Auto-related (includes auto body, detailing, machine, transmission, and repair shops, service stations, and tire distributors)	Wide variety of wastes including: acetylene gas, aerosol solvents, antifreeze, batteries, blasting waste, brake fluid, carburetor cleaner, car wash water, catch basin sediment, caustic dip tanks, contaminated diesel and gasoline, cutting oil, machine coolant, oil, antifreeze filters, oil filters, fuel filters, paint, paint booth filters, contaminated shop towels, solvents, tank sludges, and other wastes.
Beauty shops and nail salons	Dye, bleach, solvent, nail polish, and glue.
Car washes	Detergent/water solution (cannot go to storm drains), and catch basin grit.
Carpet cleaners	Wastewater (cannot go to storm drains or septic systems), spot cleaners.
Contractors	Paint, treated wood, roofing waste, adhesive, solvent, and acid.
Dry cleaners	Dry-cleaning solvent, sludge, and filters.
Electroplaters	Acid, cyanide, solvent, and other wastes.
Equipment rental and repairs	Contaminated fuel, gasoline, used oil, solvent, and aerosols.
Floor strippers	Solvent.
Furniture construction and repair	Glue, solvent, paint, paint booth filters, shop towels, and stains.
Gas stations	Contaminated fuel and absorbents.
Jewelers and watch repair	Solvent, batteries, and metals.

Laboratories	Out-dated or contaminated chemicals, formaldehyde, reactive compounds, potentially explosive compounds, solvent, photo chemicals, oil, acids, caustics, disinfectants, and toxic compounds.
Machine repair	Oil, solvent, and paint.
Maintenance	Detergents, ammonia, acids, caustics, and solvents.
Manufacturing	Wide variety of possible wastes.
Marinas	Blasting wastes, paint, batteries, and solvents.
Metal working and machine shops	Machine coolants, cutting oils, solvent, acid, metals, and detergent.
Mortuary and cemeteries	Formaldehyde and pacemakers that contain mercury.
Painters	Paint, thinner and shop towels.
Parking garages	Contaminated absorbents, oily water, and washwater (cannot go to storm sewers).
Pest control	Unused products and empty containers.
Photo processors	Unused developer and spent fixer.
Printers	Inks, dyes, solvent, and unused developer.
Recyclers	Varies according to what is being recycled.
Roofers	Asbestos felt may be a problem, liquid tar, solvent, and adhesive.
Screen printers	Inks, solvent, and contaminated shop towels.
Shoe repair	Solvents and glues.
Swimming pool suppliers	Bleach and disinfectants.
Transportation	See Auto-related.
Veterinarians	Outdated medications, disinfectants, biomedical waste, aerosol solvents, and x-ray fixer.
Warehouses and suppliers	Discarded and damaged hazardous products.
Welders	Flammable and oxidizing compressed gas containers, metals.

Resources

Air Pollution Control Authority and Ecology Contacts:
www.ecy.wa.gov/programs/air/local.html

Chemical Test Methods, revised June 2009***:***
https://fortress.wa.gov/ecy/publications/SummaryPages/97407.html

Choosing an Analytical Laboratory:
www.ecy.wa.gov/programs/eap/labs/choozlab.htm

Designation of Dangerous Waste, revised October 2004***:***
https://fortress.wa.gov/ecy/publications/summarypages/96436.html

Ecology Web site: www.ecy.wa.gov

E-Cycle Washington Web site:
www.ecy.wa.gov/programs/swfa/eproductrecycle/index.html

Hazardous Waste Services Directory:
http://apps.ecy.wa.gov/hwsd/default.htm

IMEX www.imex.com/

Moderate Risk Management Contacts
www.ecy.wa.gov/programs/swfa/mrw/mrw_contacts.html