



Contractor & Vendor Training: Stormwater Protection

Environmental Awareness Information for County Contractors & Vendors

Inside this Newsletter

Washing Activities & Exterior Cleaning	2
Carpet Cleaning & Floor Scrubbing Wastes	2
Pest Control & Herbicide Use	2
Landscaping Activities	2
Concrete Management, Saw-cutting & Washout	2
Storage: Materials & Wastes	3
Managing Trash	3
Winter De-Icers & Salt	3
Equipment & Vehicles	3
Food Service: Fats, Oil & Grease	3
Clearing & Grading	4
Catch Basins	4
Stockpiles	4
Spill Response	4

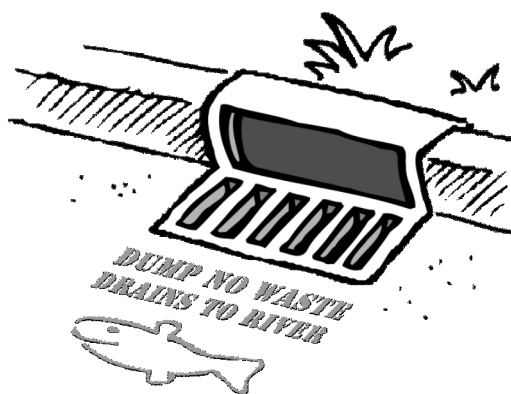
What is stormwater?

Stormwater is the result of rainfall or snowmelt that flows over our lawns, streets, parking lots, and buildings.

EPA studies show that up to 70% of all water pollution is caused by stormwater runoff.

Why should we care about stormwater?

As it flows over land, stormwater picks up a variety of pollutants, including eroded soil, trash, fertilizers and pesticides. The water then runs into storm drains and ditches and flows directly into lakes, streams, and rivers, carrying the pollutants it picks up along the way. These pollutants may cause algae blooms, increased temperature, or contribute to the degradation of lakes, streams and rivers.



We all have a responsibility to protect our water resources. In addition, environmental cleanup costs continue to increase every year. Many of these costs are paid for by the business community. This is true for employees as well as for business owners—both can be liable for the cost of cleaning up any pollution they cause. Preventing pollution is much easier and less costly than trying to mitigate environmental damage after it has occurred.

Washtenaw County is located within six different watersheds — primarily the Huron River Watershed, and portions of the Rouge River, River Raisin, North Branch Swan Creek, Stony Creek and Grand River watersheds.

Spill Prevention & Clean-Up

Even a small spill can pollute vast amounts of water; one quart of oil can contaminate up to two million gallons of water! It makes good economic sense for any business that uses chemical, petroleum, or even some bulk food products to establish basic procedures to follow in the event of a spill.

- Prepare a spill response plan.
- Refer to the appropriate Material Safety Data Sheet (MSDS) for clean-up guidance and potential safety risks.
- Don't leave open containers or tanks that are being filled unattended.
- Use a funnel when transferring liquids between containers
- Place containment trays under containers and spouts of liquid storage containers.
- Have a spill response kit stocked and on site.
- Practice good housekeeping
- Dispose of clean-up materials in accordance with all laws.

Never dump materials down storm drains or wash materials into them. These drains discharge into waterways without treatment.

WASHING ACTIVITIES

Washing equipment, vehicles, parking lots and buildings can generate significant amounts of polluted runoff which may contain detergent, oil, grease, heavy metals, sediment, grease cutters, acids and other toxic chemicals.

1. Prevent wash water from entering the stormwater system or catch basins.
2. Take vehicles and equipment to a commercial washing facility if you cannot wash them indoors.
3. Minimize runoff by using as little water as possible and trying dry methods of removal before washing.
4. Outdoor washing operations which discharge to the ground are subject to State of Michigan permit requirements.
5. Discharge wash water only to the sanitary sewer (with permission from the POTW — after filtering to remove any debris/sediment) or to an enclosed holding tank or container to be sent for proper disposal through a licensed waste hauler.

**Carpet Cleaning &
Floor Scrubber
Wastes:
See Washing
Activities
Guidelines
#1 and #5.**

Pest Control & Herbicide Use —

- Use the least toxic methods and apply only where needed.
- Develop a plan that lists: specific uses for selected products; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage and disposal methods, and; monitoring, record-keeping & notifications.
- Mix materials where spills won't be able to soak into the ground or enter a storm drain or stream. When using large tank sprayers, mix only the amount needed at the job site. Follow the label directions *exactly* — never use rough estimates when mixing or applying these products.
- Calibrate equipment frequently and be aware of weather conditions that can cause drift.
- Know what to do if a spill occurs and take steps to prevent them.

Landscaping — Be sure to collect and compost landscape wastes. Leaves & other organic wastes can become pollutants if large quantities are allowed to enter surface waters.

Mowing — Sweep grass clippings that fall onto paved areas or sidewalks back into the grass to prevent discharge to storm drains.

Watering — Maintain irrigation systems. This may involve repairing leaks, broken heads, and risers, as well as adjusting application patterns and rates to minimize runoff. Healthy turf grass should only need 1.25" of water per week during warm weather. Also, avoid overspray onto impermeable surfaces.

Fertilizing — Soil testing is recommended to determine the types and amounts of fertilizer needed. When applying fertilizers, follow the label directions *exactly* and keep fertilizers off paved areas. If you use a liquid fertilizer, be careful to avoid over-spraying and drift.

Concrete Management, Saw-cutting, & Washout

If allowed to enter the drainage system, concrete and other cement-related mortars can cover fish spawning areas. They can also be ingested by fish and other aquatic life. In addition to environmental impacts, the cost of cleaning and reopening any drains that are clogged by concrete will be assessed to the responsible party. Don't wash fresh concrete onto a surface that drains to a storm drain or stream:



- Let unused concrete harden and dispose of it with your construction debris.
- Wash chutes, vehicles, wheelbarrows and other equipment in an area that will hold wash water until the concrete settles out. After the concrete hardens, it can then be collected and disposed of with your construction debris.

STORAGE: MATERIALS & WASTES

Store materials & wastes indoors, unless doing so will increase risks to health and safety. Indoor storage is preferred because it prevents containers from weathering, keeps precipitation out, and prevents spills directly onto the ground.

If materials and wastes aren't properly stored, pollutants can leak from stockpiles and containers and run onto the ground. From there, pollutants can filter through to the ground water table or be washed by rainwater into a lake, river or stream. Reduce risk to the environment by reducing the amount of materials and wastes kept in storage, whenever possible.

- Storage areas should contain leaks
- Keep storage indoors or covered
- Choose safe storage containers — water-tight and protected from tampering
- Prevent spills
- Have a spill response plan
- Keep a spill response kit on site
- Properly dispose of wastes & clean-up materials
- Practice good housekeeping to keep materials out of storm drains
- Clean up sediment and other solids on the ground immediately to prevent them from blowing or washing away. Collect these wastes for proper disposal.

Winter De-Icers & Salt

Overuse of deicing chemicals can destroy vegetation, corrode pavement, cars & bridges; degrade aquatic ecosystems and contaminate drinking water supplies.

- Store salt & deicers properly to prevent contact with rain and snow.
- Maintain application equipment and calibrate it before each use to avoid scatter and waste.
- Clean up any piles or spills immediately.

Equipment & Vehicles

Dirty or leaking equipment and vehicles can deposit oil, grit, coolants, and other pollutants onto the ground. These pollutants can filter through soils to the groundwater table or be washed by stormwater into waterways.

- Maintain equipment and vehicles to identify leaks and repair them immediately. Perform maintenance in designated areas only.
- Keep areas clean and take steps to prevent spills. Clean up any leaked materials to prevent discharge to the storm drains.

MANAGING TRASH

Trash containers are a common source of pollutants, especially when they contain damp or oily wastes.

Do not place liquids into trash containers. Collect liquids for proper disposal through a licensed waste hauler.



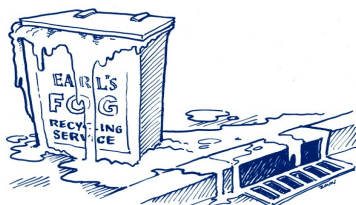
Keep trash covered to prevent exposure to rain which can cause overflows of materials onto the ground and into storm drains.

Assign someone to regularly clean up the ground around trash containers. If a container leaks, repair or replace it immediately to avoid polluting, and clean up the spilled material.

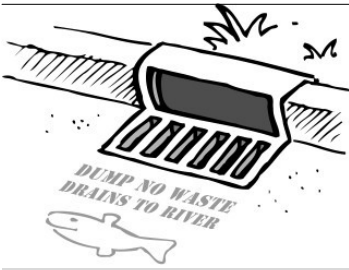
Food Service: Fats, Oil & Grease

When food service providers improperly dispose of fats, oils and grease (FOG), byproducts may end up in wastewater treatment plants and stormwater systems. FOG finds its way into storm drains from illegal dumping or leaking exterior storage containers. FOG buildup in pipes can become as hard as concrete and may completely block pipes, resulting in back-ups of raw sewage and/or flooding in streets, buildings, and waterways.

Food service providers are responsible for selecting and implementing the best handling and disposal/recycling methods for the FOG they generate.



- Use a FOG recycling/rendering service that provides watertight outdoor receptacles of adequate size.
- Schedule pickups to accommodate your FOG generation frequency.
- Avoid FOG spills and clean up spills as soon as they occur.
- Use "dry clean-up" practices to scrape, wipe or sweep FOG from utensils, floors, & equipment prior to using "wet clean-up" methods that wash FOG down drains.



Catch Basins: Inspection & Monitoring

Catch basins are structures located where surface water enters a storm drain or where pipes intersect. They collect runoff and convey it to the stormwater system which discharges, untreated, into the river.

- Protect storm drains from dust, soil and debris
- Inspect storm drains regularly.
- Remove any debris from the grates.
- Do not store materials near catch basins.

Clearing & Grading Land

Eroded soil is our #1 water pollutant by volume. As it settles in streams, sediment can smother fish eggs and bottom-dwelling organisms and destroy aquatic habitat. Suspended sediment can interfere with respiration and digestion of aquatic animals. Other pollutants like metals and nutrients are often attached to soil particles. Finally, uncontrolled sediment can clog stormwater management systems leading to high maintenance costs and flooding.

Construction activities can also cause soils to become seriously compacted which prevents stormwater from filtering into the ground, increasing the volume and velocity of runoff. Since infiltration removes pollutants from stormwater, compacted soils also reduce water quality.

- Prevent soil compaction
- Preserve vegetation
- Slow stormwater and divert it away from exposed soils.
- Control sediment and keep it on site

STOCKPILES

- Place stockpiles on a paved surface and keep them covered when not actively in use with plastic sheeting. Secure the sheeting with weighted tires or sandbags.
- Assign someone to periodically sweep the area around stockpiles to prevent any materials that escape from washing away with stormwater. If necessary, construct a berm around stockpiles to prevent stormwater from running through them.

Spill Response— Procedures & Equipment

Protect storm drains to prevent materials from discharging, if possible. Notify supervisor and others. Clean up spills utilizing the spill kit materials. Refer to your company's chemical spill response plan as needed.

Spill Kit Contents (typical):

- Absorbents (pads, booms, kitty litter, etc.)
- Tools (shovels, brooms, squeegees, etc.)
- Personal Protective Equipment (rubber gloves, boots, masks, etc.)
- Other Supplies (warning tape, labels, markers, Material Safety Data Sheets, etc.)

For More Pollution Prevention Information —

Please review the Community Partners for Clean Streams Handbooks available online at <http://drain.ewashtenaw.org>

or contact the Water Resources Commissioner's Office at
at (734) 222-6860 ▪ 705 N. Zeeb Road, Ann Arbor, MI 48107

Email: drain@ewashtenaw.org

