

STORM WATER MS4 PROGRAM

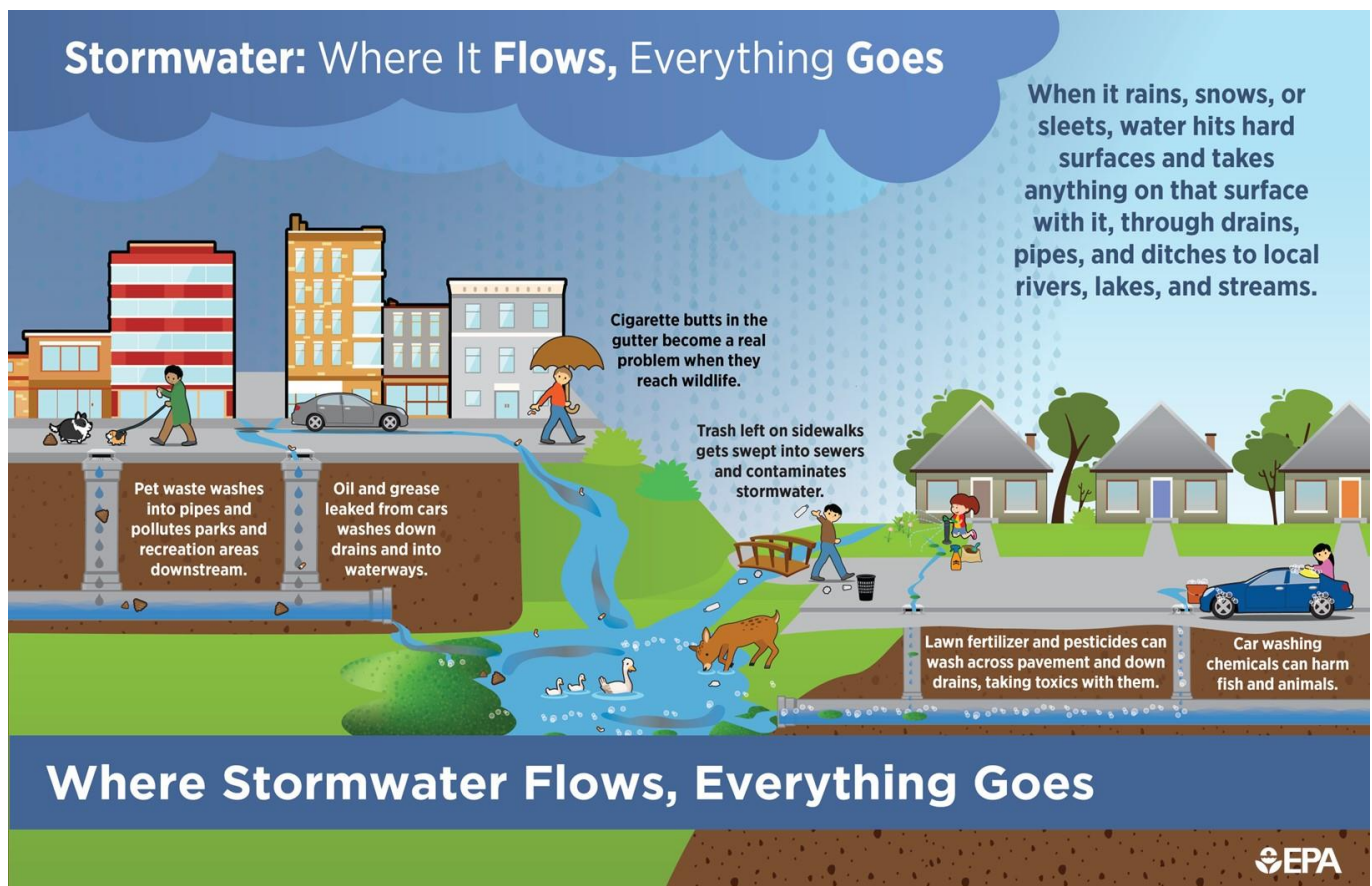
The Storm Water Utility is responsible for the installation and maintenance of the Storm Sewer System. The utility is also responsible for the federally mandated Municipal Separate Storm Sewer System (MS4) program.

What is Storm Water?

Storm water runoff is part of the natural hydrologic process and occurs when rainwater that does not infiltrate into the ground flows into water bodies such as creeks, lakes, streams, or rivers. In suburban areas, the storm water runoff often has the benefit of passing through naturally vegetated areas, which slows down the velocity of the water and ultimately filters it for pollutants and sediments. In urban settings, however, natural vegetation and topography have frequently been altered to prevent storm water from naturally soaking into the ground and so it is most often carried by storm drains.

When the drainage pattern of a watershed is altered with the addition of impervious surfaces such as driveways, parking lots, and buildings, flows increase in concentration and velocity and pick up sediments and pollutants from land surfaces at an increased rate. Storm water that flows through urbanized areas to receiving waters is called "urban storm water runoff" or "urban runoff."

The City of Greenfield has developed a storm water program that manages the pollutants and impacts from urban storm water runoff. The program includes education, storm water quality and quantity measures, and a storm water utility.



Pollutants

Urban runoff is known to carry a wide range of pollutants including:

- Heavy metals

- Nutrients
- Pathogens
- Petroleum hydrocarbons
- Sediments
- Synthetic organics such as pesticides
- Trash and debris

Once pollution reaches water bodies, it can harm aquatic life, damage ecosystems, and even end up in water used for drinking or recreation. Protecting our water bodies from all sources of contamination can be accomplished through the cooperation of citizens, government, and businesses.

Community Impacts

Pollutants in urban runoff could negatively impact the vitality of our municipality on many levels. Pollutants in urban runoff can:

- Alter the physical, chemical, and biological characteristics of water bodies to the detriment of aquatic and terrestrial organisms.
- Make streams and rivers unsightly or unsafe for human contact.
- Negatively impact water recreation, fishing, tourism, and aquatic habitat.

In some cases, pollutants of concern may not even be visible to the naked eye.



- If you park your car on the street, check for spots underneath it, which could be a sign of leaky oil or other fluids that can contaminate stormwater as it washes by. Don't let your leak pollute.
- Street sweeping is an important part of stormwater management; during posted sweeping hours, don't park your car on the street.
- Keep garbage cans covered to keep trash from blowing and avoid rainwater getting contaminated by your trash. Never dump garbage in alleys or gutters.
- Read the label to dispose of household chemicals and paints properly, and never dump them in the alley, on the sidewalk, or in the street.
- Keep raked leaves or yard clippings out of the storm drain to avoid clogs and debris that can reach waterways.
- Don't hose down sidewalks; that will flush dirt down through the storm drain system!
- During colder weather, avoid oversalting the sidewalk or use "green" deicer—a little goes a long way!
- Always pick up after your dog by putting waste in a bag and disposing it in an appropriate waste container, rather than dropping it in the storm drain.
- Never drop cigarette butts on the ground; put out cigarettes and drop the butts in a proper receptacle or trash can.
- Always put trash in its place and keep it away from storm drains.

Provided by EPA: Be Stormwater Smart

MS4 Program

The Indiana Department of Environmental Management (IDEM) designated the City of Greenfield as a municipal separate storm sewer system (MS4). The city is required to comply with a state-issued storm water permit (INR040039). Greenfield is implementing a program to prevent storm water pollution in urban runoff and improve the water quality of local water bodies.

The Storm Water Quality Management Plan describes Greenfield's MS4 program and how it is implemented. Annual Reporting of certain measures and goals are required to be submitted to IDEM.

- Storm Water Quality Management Plan
- Annual Report

As part of the MS4 Program, Greenfield adopted an ordinance to protect storm water. Only rainwater should enter storm drains or surface waters. The ordinance prohibits illicit connections and discharges to the storm sewer and illegal dumping. The ordinance also regulates storm water detention, water quality,

and construction and post-construction practices.

- [Greenfield Stormwater Management Ordinance](#)
- [Greenfield Stormwater Technical Standards](#)

What is an Illicit Discharge?

An illicit discharge is any discharge to a MS4 conveyance that is not composed entirely of storm water, except naturally introduced floatables, such as leaves or tree limbs. The storm water drainage system includes street curb and gutters, ditches, catch basins, yard inlets, and underground storm pipes.

Examples of Illicit Discharge include:

- Changing oil or antifreeze over or near a storm structure and allowing the liquid to flow into the storm drainage system.
- Washing vehicles where the runoff could drain into the storm drainage system.
- Washing dumpster pads and allowing the runoff to drain into the storm drainage system.
- Dumping grass clippings into a storm water basin or inlet or into the street.

Illicit discharges cause water pollution by sending pollutants directly into creeks, streams, ponds, and lakes. Be sure you know what illicit discharges are so you can help prevent water pollution and keep our streams clean!

To report the illegal dumping of chemicals, heavy erosion from construction sites, heavily polluted water, or other illegal connections to the storm system (such as sewer lateral discharges or washing machine wash water), please call the Storm Water Hotline. The Storm Water Utility will accept hotline calls at phone number (317) 325-1327 during normal business hours, Monday through Friday (or email dmiller@greenfieldin.org). Callers are required to give their name and contact information so that storm water problems can be tracked as they are resolved.

See more information and examples: [Spotting Illicit Discharges](#) or watch this short [video](#).

Public Education

Greenfield is promoting pollution prevention activities and education as part of the MS4 program. The below educational brochures are available at City Hall:

- Property Owner's Responsibilities
- Recycling and Waste Program
- Storm Water Construction Permits
- Pet Waste and Water Quality (English and Spanish)
- Spotting Illicit Discharges: Illicit Discharge Detection and Elimination Tip Card

The following additional educational resources are available for viewing to learn more about storm water.

- [Blue is the New Green - YouTube](#). Tippecanoe County Partnership for Water Quality. March 2015. Duration: 10:11. Educational video for the public on the right things to help protect our environment.
- [Water Quality Education by The Clean Water Education Partnership - YouTube](#). Town of Cary, North Carolina. January 2018. Duration: 2:42. Video on what you can do to maintain water quality.
- [Freddy the Fish Teaches About Stormwater - YouTube](#). North Central Texas Council of Governments – Environment and Development. December 2014. Duration: 4:28. Freddy the Fish teaches kids about what happens to rain after it hits the ground, where storm drains lead to, and what we can do to help prevent water pollution
- [Explaining Stormwater Runoff - YouTube](#). The Watershed Institute. Original video produced by the West Michigan Environmental Action Council for the City of Grand Rapids, MI. June 2018. Duration: 1:35.

Citizen Involvement

Citizens can report illegal dumping of chemicals, heavy erosion from construction sites, heavily polluted water, or other illegal connections to the storm system (such as septic tank discharges or washing machine wash water) to the Storm Water Hotline. The Storm Water Utility will accept hotline calls at phone number 325-1327 during normal business hours, Monday through Friday (or email dmiller@greenfieldin.org).

What can you do to prevent storm water pollution?

- Clean up your property. Properly dispose of outdated or unused household chemicals stored in your basement, garage, or barn by taking them to the [Hancock County Solid Waste Management District](#). Do not store these materials outdoors.
- Recycle used oil, automotive fluids, batteries, and other products. Do not dispose of hazardous products in storm drains, alleys, or the ground. This pollutes the water supply. Learn more about recycling your used motor oil [here](#).
- Reduce the number of fertilizers, pesticides, or other hazardous chemicals that you use. Buy only what you need so that you do not have to dispose of leftovers. Read all the labels and follow directions.
- Sweep up debris, rather than hosing down areas.
- Clean up after your pet and dispose of pet waste in a trash container or toilet. When left outdoors, pet waste contributes bacteria and nutrients to storm water. Learn more about pet waste [here](#).
- Use a commercial car wash or wash your car on an unpaved surface to reduce the amount of dirty, soapy water entering storm drains and waterways.
- Cover piles of soil and mulch being used for landscaping projects.
- Prevent debris from entering nearby storm drains when conducting outdoor home improvement or landscaping projects.
- If you have a septic system, have it serviced regularly. Make sure it is not connected to the storm sewer or polluting a creek or body of water.
- Drain your swimming pool only when a test kit shows non-detectable levels of chlorine or bromine.
- If you spill chemicals, oil, or fuel, clean it up with absorbent materials (for example kitty litter). Do not let it soak into the ground. Place absorbent in the trash.
- If you live next to a community pond, help maintain it. Learn more from this video: [Stormwater Pond Maintenance for Homeowners](#).

Learn more about these activities and others: [Property Owner's Responsibilities](#).

Construction Projects

The City of Greenfield and IDEM regulate construction projects that disturb one acre or more of land. Storm water runoff from construction sites picks up pollutants like trash, chemicals, oils, and dirt/sediment that can harm our rivers, streams, and lakes. To protect these resources, communities, construction companies, industries, and others, use storm water controls, known as best management practices (BMPs). These BMPs control pollutants and/or prevent pollution by controlling it at its source. Refer to the [Engineering Department](#) and below for more information on permitting.

- [Storm Water Construction Permits](#)
- [Greenfield Storm Water Management Ordinance](#)
- [Storm Water Technical Standards](#)

Contractor Training Videos:

- [Proper Concrete Washout Procedures](#) (For Contractors)
- [Site Access and Preparation](#)
- [Storm Water Run Off/ Run On](#)
- [Surface Stabilization](#)

- [Outlet Protection and Grade Stabilization](#)
- [Temporary Inlet and Curb Protection](#)

Storm Water Utility Fees

The MS4 Program and stormwater management in Greenfield is funded through the storm water utility fees. Residential properties are charged a uniform user fee, while non-residential sites are based on the amount of impervious area a property has that includes compacted gravel, concrete, asphalt, and rooftops.

[Chapter 54 of the City of Greenfield Municipal Code](#) explains the storm water utility and all its aspects in greater detail.