

Stormwater 101

The Greater Elkhart County Stormwater Partnership



Learning Objectives

What is the Greater Elkhart County Stormwater Partnership?

What is a MS₄?

What is stormwater?

Why is managing stormwater important?

The Greater Elkhart County Stormwater Partnership

What is a MS₄ and how does it work?



MS4

and

The Greater
Elkhart County
Stormwater
Partnership



MS4
stands for
Municipal Separate Storm
Sewer Systems

This partnership includes:

Elkhart County

City of Elkhart

City of Goshen

Town of Bristol



Guidance Documentation

MS₄

and

The Greater
Elkhart County
Stormwater
Partnership

- The Federal Clean Water Act requires storm water discharges from certain types of urbanized areas to be permitted under the National Pollutant Discharge Elimination System (NPDES) program.
- November 1990 – EPA began Phase I of its storm water program requiring states to develop regulatory programs to address pollution issues associated with storm water.
- Today Storm Water Phase II has been established to reduce the impacts of storm water run-off from construction, industrial, municipal, governmental and institutional sources.
- General Storm Water rules are found in 325 IAC 15 (Article 15).
- August 2003 - 327 IAC 15-13 (Rule 13) established requirements for designated MS₄'s entities to develop local Storm Water Quality Management Plans (SWQMP).



SWQMP

Storm Water Quality Management Plans

The MS₄'s must address these 6 "minimum control measures" through their SWQMP

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1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Site Runoff Control
6. Pollution Prevention and Good Housekeeping



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Rule 5: SWPPPs

(Storm Water Pollution Prevention Plan)

327 IAC 15-5 a.k.a. Rule 5

is a performance-based state regulation designed to reduce pollutants that are associated with construction and/or land disturbing activities

LONG STORY SHORT

If someone disturbs more than one (1) acre of soil while developing land (not agriculture), they are regulated by a state rule and must have a storm water control and erosion prevention plan in place



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Stormwater

What is it and what do we do to control it?



What is stormwater?



Stormwater is water that originates from precipitation events, snowmelt, or runoff

Stormwater is urban and agricultural – rain falls everywhere!



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How is stormwater managed?

The Greater Elkhart County Stormwater Partnership works diligently to:

- **Control flooding** by installing, cleaning, and maintaining stormwater infrastructure such as curbs and gutters, street inlets, pipes, ditches, culverts, detention ponds, etc.
- **Regulate development** by setting design standards, providing technical guidance, reviewing plans for development and redevelopment, inspecting construction sites, and enforcing regulations.
- **Prevent pollution** by educating the public, implementing clean water programs, inspecting and monitoring runoff, complying with federal and state regulations, and enforcing water quality standards set by the Clean Water Act.

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Controlling Runoff = Controlling Stormwater

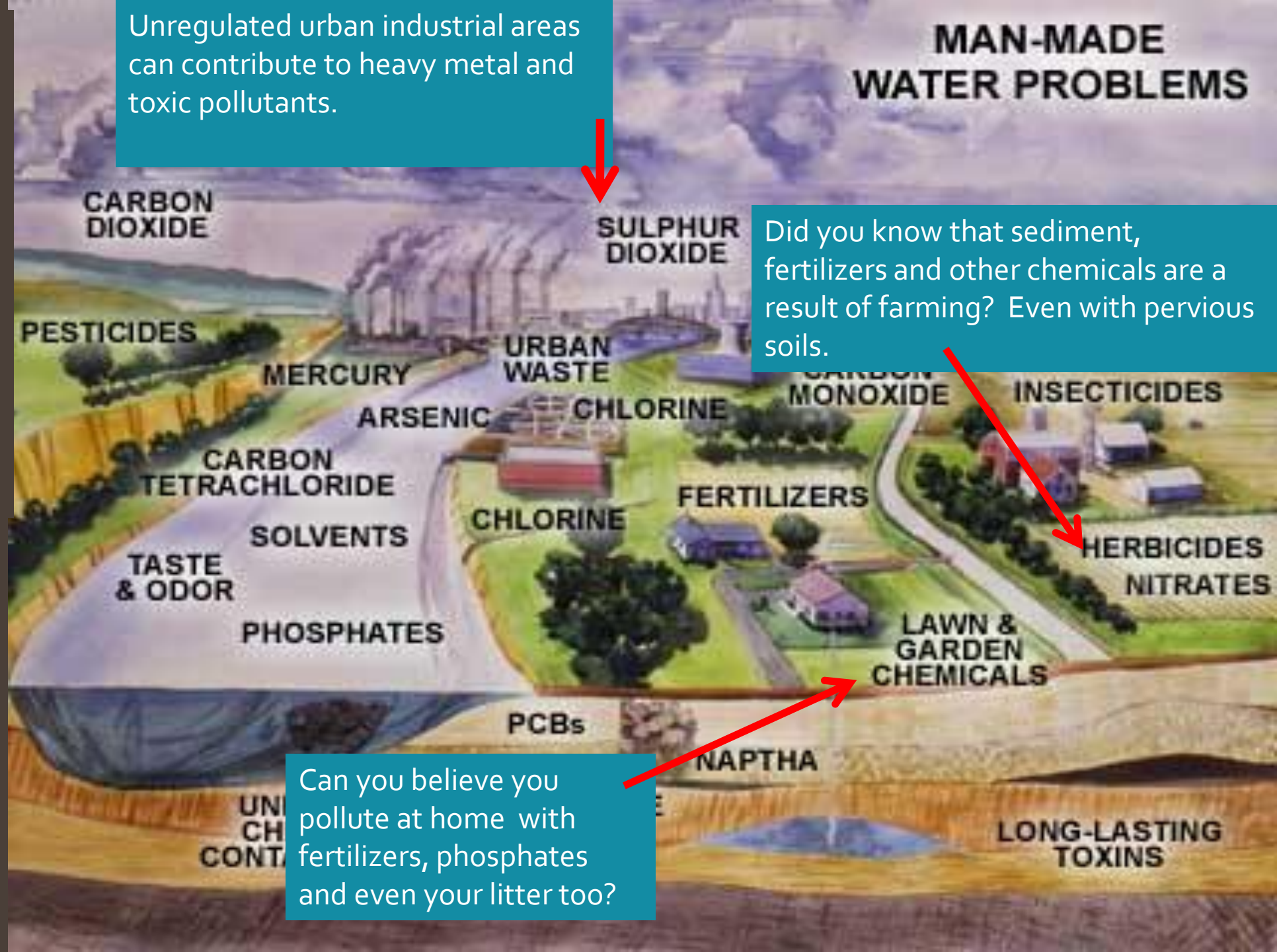
The three types of runoff that contribute to controlling stormwater quality are:

- Rural Runoff.
- Urban Runoff
- Suburban Runoff

Unregulated urban industrial areas can contribute to heavy metal and toxic pollutants.

MAN-MADE WATER PROBLEMS

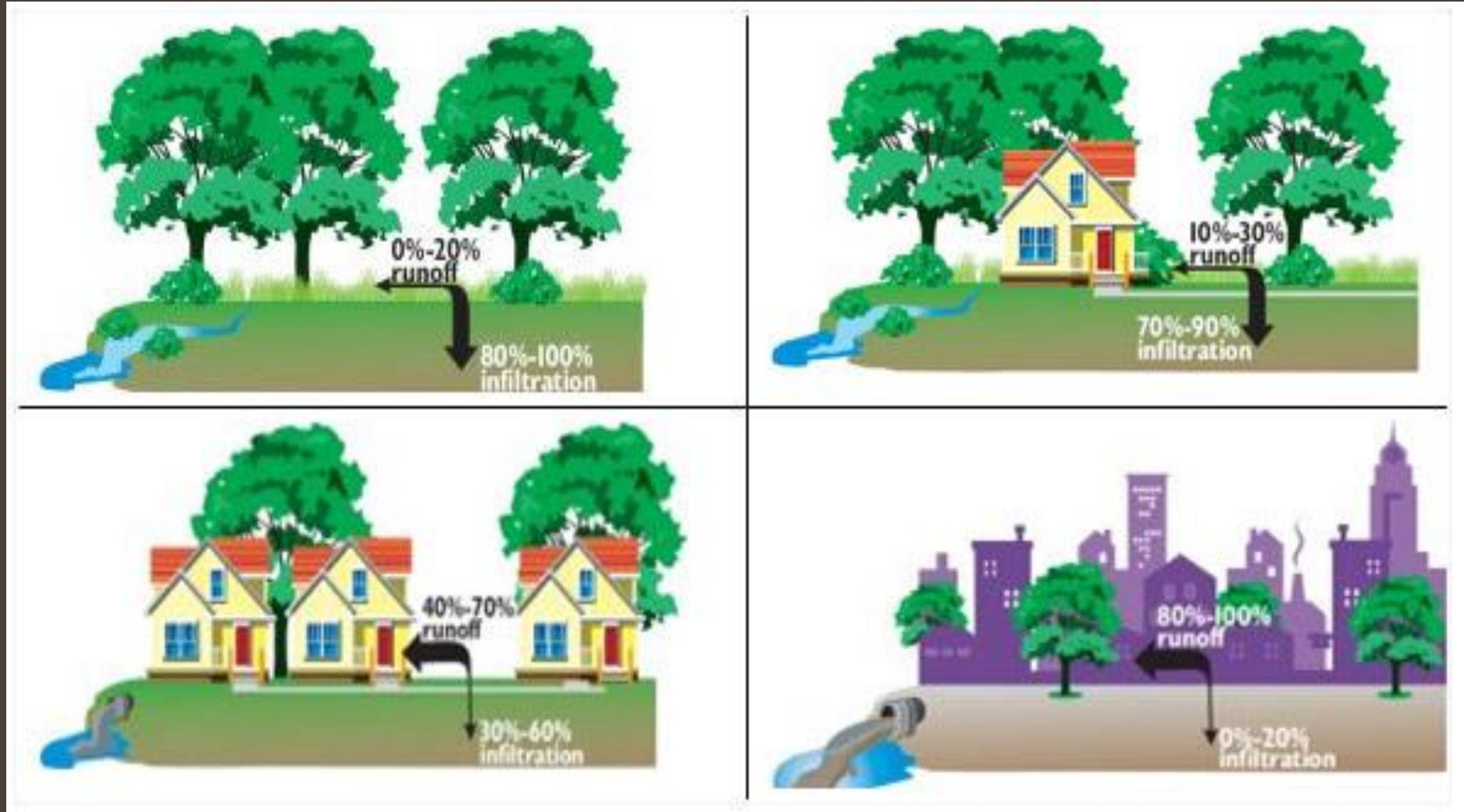
Did you know that sediment, fertilizers and other chemicals are a result of farming? Even with previous soils.



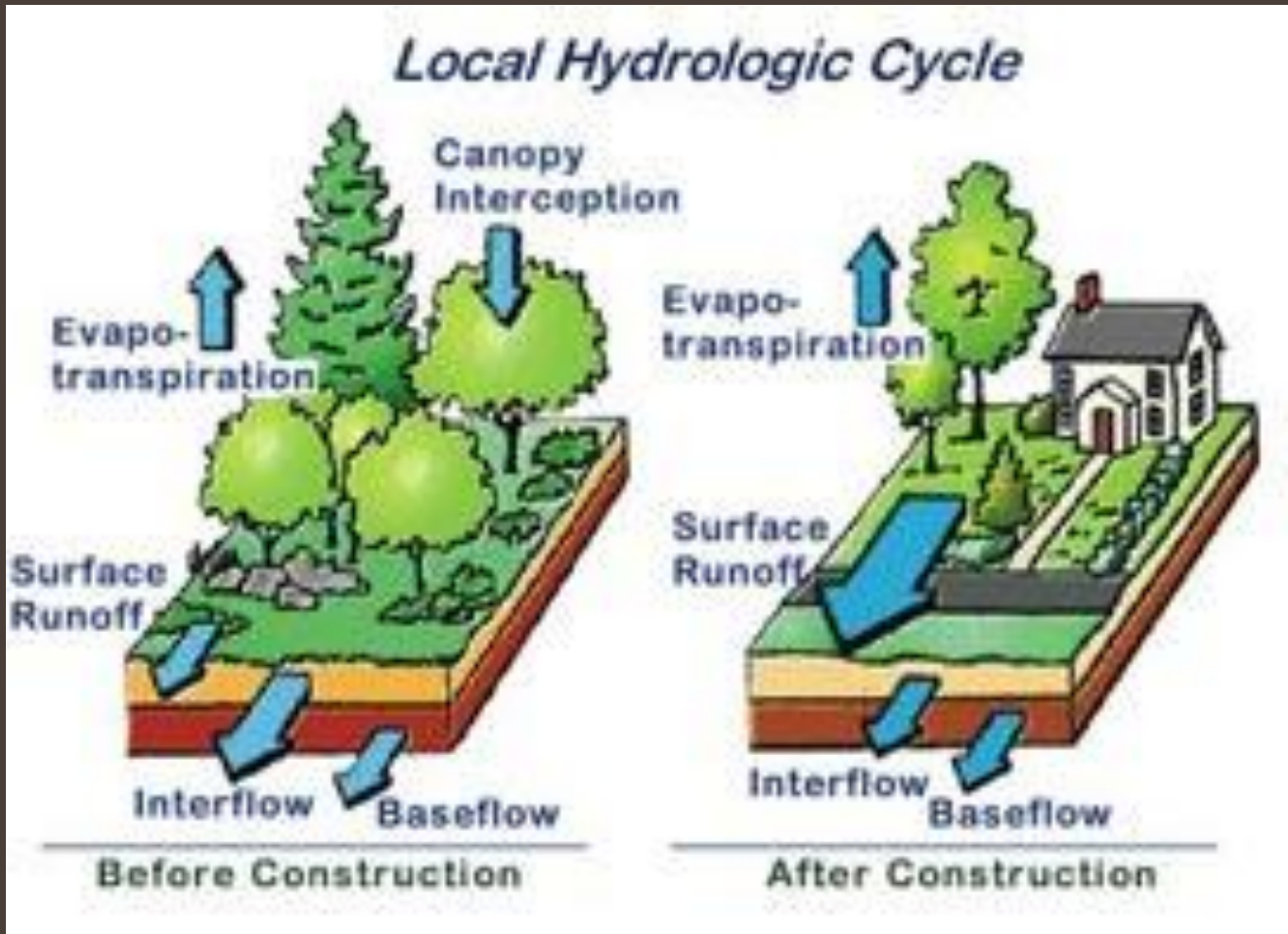
Can you believe you pollute at home with fertilizers, phosphates and even your litter too?

Rural, Suburban, Urban, and Industrial Runoff Estimates

Industrial and Urban have the most runoff, and the smallest amount of infiltration

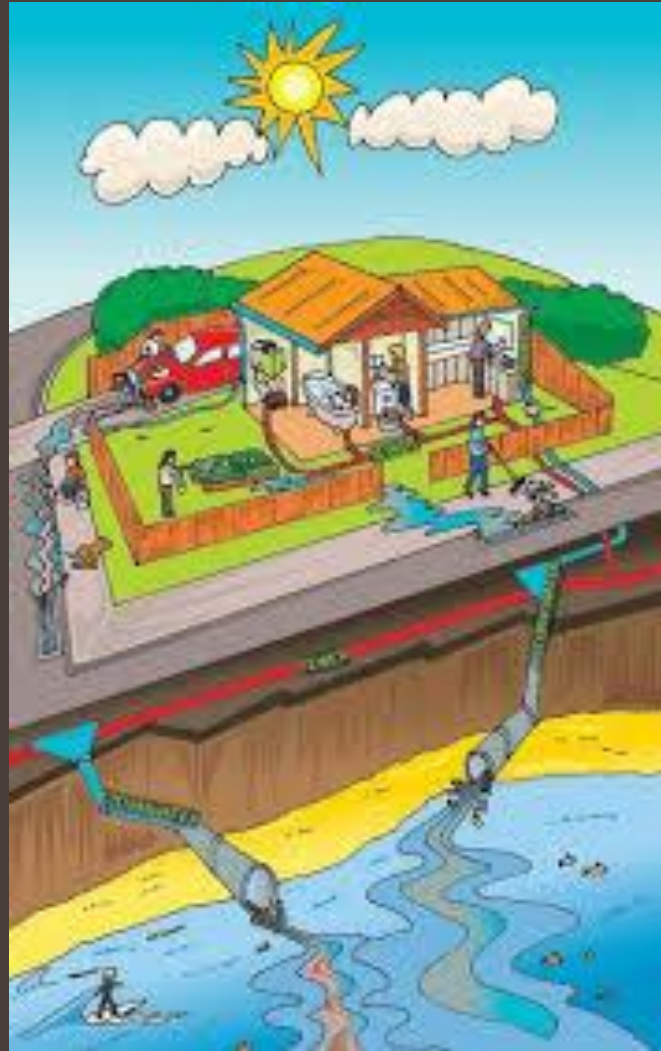


Urban Runoff



Urban Runoff

Pollutants



Can you identify any sources of pollutants in these two urban areas?

Explore these links
and the “notes”
section below
each slide for
background
information

Learn More!



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Supporting Information, Resources, and Classroom Activities

Landscape Architecture/Stormwater Management Lesson Plan Book

<https://cbtrust.org/wp-content/uploads/EPA-SW-Lesson-Plan-Book.pdf>

Great resource for lesson plans grade 3-12

Teacher Resources for Introducing Urban Stormwater Quality Concepts to the Classroom

https://www.colorado.gov/pacific/sites/default/files/WQ_Teacher-Resources.pdf

Lesson plans following Colorado standards, but applicable activities and info

Best Management Practices for Stormwater

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu>

Background information on stormwater BMPs

Elkhart County Soil and Water Conservation District

Still want to know
more?

Contact us!

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