A Drop of News

The Maple City Stormwater Toolbox

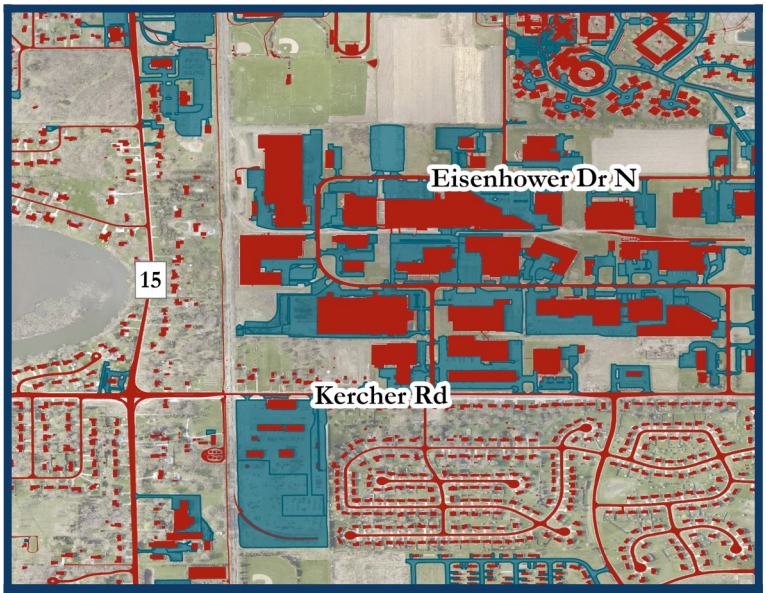
June 2021

Hard Surfaces, Hard Times for Stormwater

Imagine standing on the hillside of Chamberlain neighborhood before the time of grocery stores, parking lots, and roads. Watch as a downpour rolls into Goshen. What happens to all that rain? Where does it all go?

In a vegetated landscape, stormwater does what it has done for millions of years—the leaves and branches of plants slow stormwater down before it reaches the soil where root systems begin soaking up the water to serve plants and recharge groundwater.

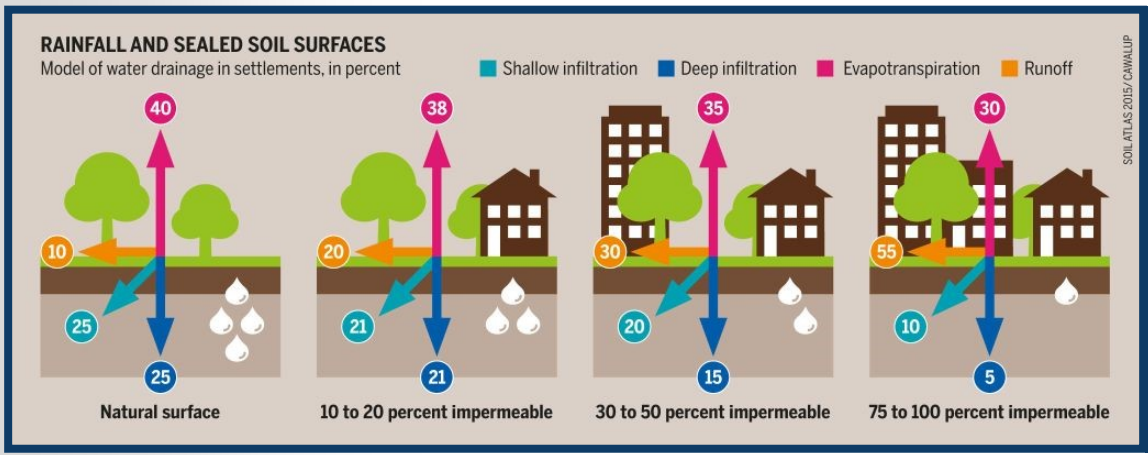
Now, go stand in your imagined spot on the Chamberlain neighborhood hillside to watch a storm someday. What happens to all that rain? Where does it all go?



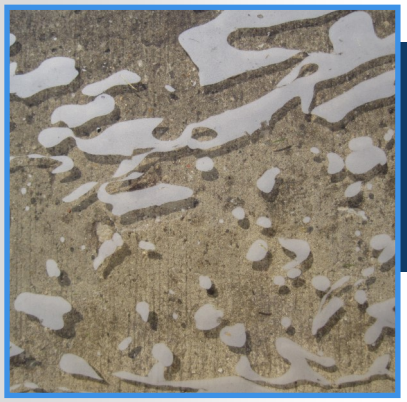
The above is a snapshot of hard surface coverage here in Goshen. The blue shows parking lots while the dark red indicates buildings, roads, and sidewalks.

The ways humans change our landscape have dramatically impacted how stormwater moves across a landscape. Much of our built environment covers over our soils creating impermeable surfaces—hard surfaces that do not allow water to filter through. Lack of trees and other vegetation means rainwater reaches the ground with much greater force, and smooth, hard surfaces allow no other opportunities for stormwater to *slow down*. Hard surfaces also concentrate stormwater flows in unprecedented ways. In a developed environment, stormwater moves across a landscape much quicker and in greater volume than ever before with few chances to *spread out*. Hard surfaces also mean we have smaller and smaller areas where stormwater can *soak in*. These characteristics of urban stormwater movement can cause flooding, erosion, and the depletion of our groundwater supplies.

In an urbanized area like Goshen, we can develop measures that mimic the ways stormwater once moved through our landscape by building or saving areas that *slow down, spread out,* and *soak in* stormwater.



This diagram shows the impacts of hard surfaces on the amount of water able to infiltrate and evaporate following a storm event. Note the increasing amounts of stormwater runoff as more hard surface is added. Goshen's hard surface coverage is about 33 percent overall with much greater percentages in highly developed areas like in the map above.



June Pollutant Challenge

Will you help keep detergents out of our waterways?

Why are detergents a stormwater pollutant?

Detergents, or soaps, reach our waterways when they are washed into our stormwater systems. Detergents contain compounds called surfactants which reduce the surface tension of water and aid in breaking down oil and grease—useful for washing a car, but a threat to fish and other aquatic life if they reach a waterway. The same properties that break down oil and grease can destroy the protective mucus of a fish which exposes them to bacteria and causes greater absorption of far more dangerous pollutants.

Washing a car in grass or at a car wash helps reduce detergents in our waterways!

What can I do about it?

Car washing is one of the biggest ways detergents can reach our waterways. There are a few simple things you can do to reduce the water quality impacts of washing your car:

1. Use a commercial car wash—these regulated businesses have treatment requirements for their wastewater.
2. Use nontoxic, biodegradable, and phosphate-free soaps.
3. Wash your vehicle in the grass or some other permeable surface that will reduce the amount of runoff heading towards a storm drain and even filter some of the pollutants of concern.

Report a Pollutant

Stormwater pollutants include anything other than rain that could flow or be washed into a storm drain. If you see a pollutant entering a storm drain, please call 574-534-2201, send an email to stormwater@goshencity.com, or submit a Stormwater Report through the City's "Report an Issue" button on the City of Goshen website, *www.goshenindiana.org.*

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bit.ly/goshen-stormwater

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Goshen
THE MAPLE CITY