

# MSU SUSTAINABLE STORMWATER MANAGEMENT WALKING TOUR



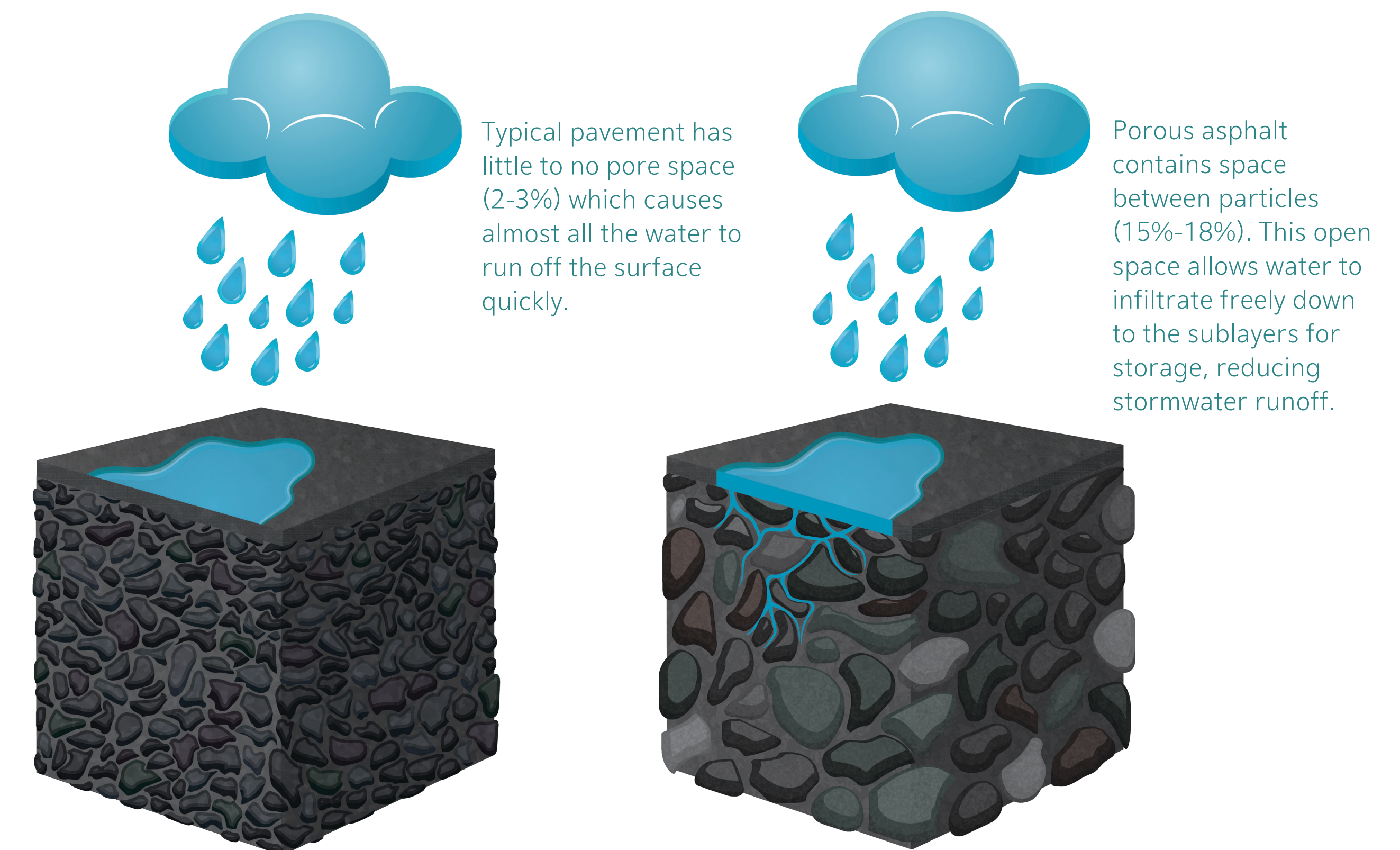
## I.M. WEST POROUS ASPHALT

Michigan State University (MSU) has implemented **green infrastructure** to capture stormwater from surrounding roads, parking lots, and buildings. Previously, water from these surfaces entered the storm sewer system, which led directly into the Red Cedar River. Now through a variety of green infrastructure practices, stormwater is captured and either reused or infiltrated on site. Capturing stormwater reduces pollutant runoff into the river, improving water quality.

### WHAT IS POROUS ASPHALT?

Impervious pavement leads to high surface water runoff that picks up pollutants and also reduces groundwater recharge. Porous asphalt is an alternative paving material that allows for stormwater to infiltrate a surface and reduce sheet runoff. Porous asphalt filters water, so that pollutants are contained and/or broken down by organisms in the soil. Porous asphalt is an important tool in reducing stormwater runoff, especially in dense urban areas where space for other green infrastructure is limited.

- 1** Open-grade asphalt mix is the top layer, typically 5" thick. This consists of relatively large stones bound together with a bituminous binder and fewer small particles such as sand or fines which allows water to infiltrate into the sublayers.
- 2** A recharge bed contains larger stones of a single size to provide support for vehicles while also containing up to 40% void space that can fill with stormwater during rainfall events.
- 3** An uncompacted subgrade layer has a higher rate of infiltration over a compacted soil layer. During a rainfall event, stormwater will slowly filter down through this soil layer, recharging the groundwater.



### DID YOU KNOW?

Studies have shown that porous asphalt parking spaces can typically infiltrate up to 80% of stormwater runoff. These paving systems can also remove about **60% to 85% of undissolved nutrients and up to 95% of sediment.**

You are an essential part of the Red Cedar Watershed, and your actions can help to protect our shared water resources.

To learn how you can help, visit:  
**[msu-water.msu.edu](http://msu-water.msu.edu)**

#### Contributing Departments and Units

Biosystems Engineering  
Community Sustainability  
Horticulture  
Infrastructure Planning and Facilities  
Institute of Water Research