**Water Matters…The Ground Beneath Your Feet**

Matthew Jones, Water Resource Education Specialist, ACPWQ

Take a look down. Not at your feet but rather, what your feet are standing upon. What kind of surface is it? Is there a slope to it? Where does that slope lead? If the rain were to fall upon it, what would happen to it? Would the rain soak in, run off or both?

These are questions we, as storm water professionals, consider as we go through the paces of our respective jobs. Perhaps we should all pay attention to these questions.

The ground beneath you has many different characteristics that determine the ability of rain to drain into the ground or percolate. The three major classifications of types of mineral particles are sand, clay and silt. Most soils contain elements of all these with another of them contributing to the character of the soil.

Here in Northeastern Indiana our soils are the result of glacial till being processed over thousands of years. The character of most of our soils is heavy on the clay side. As you could imagine, these soils don’t absorb as easily as some with a higher sand mix. As a matter of fact, the more clay, the less infiltration you have.

All too often, the rain that hits the ground tends to run off faster than it can absorb. If we have a higher amount of organic matter the rate of absorption increases. The rate will also increase with the presence of deep-rooting plants.

Unlike a lot of wild areas, we have ‘domesticated’ the landscape with either crops or turf grasses. Of these, turf grass roots are substantially shorter than crops or native plants. Most turf doesn’t go into the ground more than a few inches and then tends to mat into the grasses around it so that you could literally cut out a rectangle of turf about three inches deep, roll it up and relocate it without harming the grass.

Why am I, a water quality guy, talking to you about soil?

You may or may not realize this but the biggest contaminant in our waterways, according to the US EPA, is sediment. Then there’s the fact the sediment particles are bonded with all those nasty particles we don’t want in the waterways, either. Particles of oil, from leaking motors or engines, excess fertilizer and pesticide chemicals, improperly discarded paint and solvents, and the e. Coli from decomposing pet waste all bond to the soils and will wash off with them in a rainfall.

Of course, covering the ground is the important thing here so turf grass is better than no grass or cover at all.

So where does all of this lead? The talk, the runoff, the loose soil particles and the contaminants all lead to the nearest drainage and then to the waterways.

What can be done?

If you can, make sure all your ground is planted in something-using native plants is typically best. Always read directions on chemicals and always dispose of them properly. Never apply chemicals in wet weather. Pick up after your pets.

It’s that simple.

Now, take another look beneath your feet again. If your standing on concrete, asphalt or other pavement of some kind, follow the slope to the nearest drain. More than likely, the rain hitting these is not soaking in at all.

Take a look up and around you. Chances are all of the water coming off the rooftops and roadways is also going across these surfaces and straight out to the rivers untreated.

Let’s do what we can do to improve water quality. Slow or stop the process of runoff from the rooftops and roadways to the rivers.

Thank you!