

Stormwater Runoff and Record Rainfall

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An article in the last winter newsletter discussed the impact of the region's increasing rainfall on stormwater runoff, especially in older Township neighborhoods with less than ideal stormwater management systems. With no end in sight to the frequency of these intense rainstorms, there's more to consider.

When forecasters call for rain, more and more they warn of severe storms and flash flooding. These frequent torrential rain events are breaking daily rainfall records. The Philadelphia region saw its greatest two-day rainfall total for any June on record with 4.63 inches on June 19 and 20. In just a few hours' time, storms are inundating areas with 3 to 4 inches of rain. What's more, the ground is so saturated that infiltration is hardly possible even with an ideal stormwater management system in place.



So as each new storm brings reports of drainage issues that have never been seen before, we need to ask: Are these really new "problems" or are they the inevitable result of the record rain events that continue to overwhelm the region? There's something else to keep in mind. With extreme rainfall amounts, you have to expect extreme runoff. While water flowing through your yard on its way to a stormwater facility is disconcerting, it's not a drainage problem. It's a system at work.

As was noted in the previous article, Township neighborhoods older than 10 or 15 years don't have nearly the same amount of stormwater design and infrastructure as newer developments. The pipes are aging and inefficient. Many designs used grading and swales, which over time become filled in and flatten out and are no longer able to assist in getting water to natural water courses. Unfortunately, there's no easy or inexpensive fix.

The Township enacted a new stormwater ordinance in April 2018 in part to answer requirements from the US Environmental Protection Agency and the PA Department of Environmental Protection. The ordinance requires more in-depth stormwater management planning, especially in instances of new impervious surfaces of 1200 square feet or more. As before, property owners are not permitted to direct non-stormwater discharges into the storm sewer system. In the new ordinance, there are guidelines for roof drains and sump pump drainage. The ordinance states: Roof drains and sump pumps shall not discharge water directly onto a sidewalk, walkway, trail or street and shall be constructed to discharge to a dry well/seepage pit or above ground entirely on the subject property. Sump pump and roof drain discharge pipes shall not extend beyond the building envelope for the lot unless they are directly connected to an infiltration facility, detention basin, storm sewer pipe or as approved by the Township (Section 129-47.B)

Informative resources for homeowners regarding stormwater best management practices, such as “A Homeowners Guide to Stormwater Management” can be found on the Township website, www.lowerprovidence.org/stormwater-management, and at the Penn State Extension, extension.psu.edu.