

Ellicott City Lot E Stormwater Staircase

Problem:

A staircase connecting Ellicott City's historic Main Street to a public parking lot had become unsafe and unusable, due to chronic flooding issues as well as an earthquake in 2013.

Solution:

Howard County and Ellicott City used the needed stairway repair as an opportunity to not only improve public safety but also to treat two acres of stormwater flowing into the Patapsco River. The innovative "stormwater staircase" collects stormwater from Main Street and sends it into a flume that is connected to a series of bioretention cells, including a rock channel and a waterfall.

Stormwater is slowed by a series of hairpin turn and channeled to densely-planted native rain gardens where it can be absorbed. Signage along the staircase provides educational information, and a video about the project is played on a loop in Howard County government buildings.

This attractive and effective solution won a "Best Ultra Urban Design" award from the Chesapeake Stormwater Network in 2017.



A stormwater flume connects flow from Main Street, under the stone staircase to a series of BMP's within it.



A waterfall and several hairpin turns slow the water and provide aesthetic interest.

Key Project Facts

Type of Project:

Bioretention, Urban Infrastructure

Cost: \$1.54 million; Howard County READY (Restoring the Environment and Developing Youth) Program crews planted and maintained portions of the project.

Partners: Howard County Bureau of Environmental Services, McCormick & Taylor Architects

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What is Polluted Runoff?

The growth of our cities has resulted in too many paved surfaces, which prevent rain water from being absorbed by the ground. Instead, the water runs off streets and buildings, collecting trash and dangerous chemicals on its way. This contaminated water overflows into our streams and rivers, creating public health hazards and toxic waters.

Storm water projects create safe paths for polluted runoff to be captured and filtered before it reaches our waterways. They keep communities healthy and the environment clean.

When communities and their local governments work together to solve big problems like storm water runoff, that's a story worth telling!