

## Westminster High School Stormwater Management Facility

[mostcenter.org/casestories](http://mostcenter.org/casestories)

### Problem:

During a GIS analysis and stream corridor assessments of drainage to Liberty reservoir, severe erosion was found on county-owned property. This erosion was caused in part from rainwater rushing off 41 acres of untreated parking lots, roofs, and blacktop that entered a storm drain system leading to this parcel. This stormwater infrastructure was developed prior to modern day stormwater management regulations (i.e. water quality, water quantity, channel protection) and carried untreated runoff toward a drinking water reservoir.

### Solution:

An engineering analysis determined that the most cost effective solution was a surface sand filter facility with a concrete 'weir wall'. The county installed a manhole with a diversion structure which bypassed the stream flow around the facility and directed the storm flows into the facility for treatment. A series of under drains were installed in an 18" bed of No. 8 stone under an 18" sand/soil/wood chip filter media. Stormwater is now effectively treated and the drinking water supply is better protected.

*The new surface sand filter:*



BEFORE: The former creek bed with sediment trap.

Photo Credit: Carroll County



AFTER: The nearby creek has rebounded quickly, with trickling, clean water and beautiful new wildlife habitat.

Photo Credit: Choose Clean Water

### Key Project Facts

**Project Location:** Westminster, MD

**Type of Project:** Sand Filter / Infiltration

**Drainage Area:** 117.25 acres

**Impermeable Surface Area:** 44.81 acres

**Cost:** \$1,097,180 overall

- \$88,638 in engineering
- \$1,005,667 in construction
- \$2,875 in landscaping

**Per acre cost:** \$24,412

**Funding Sources:** \$453,526 from Maryland State Highway – Transportation Alternative Program (TAP) and \$640,144 from Carroll County

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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.

Stormwater 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 stormwater runoff, that's a story worth telling!**