

# EROSION CONTROL

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### Playing Catch with Mother Nature

Inlet and storm-drain protection



By Tara Beecham

Controlling pollution at its source should be an essential part of any stormwater protection plan. Whether you're setting out to trap sediment or pollutants—including hydrocarbons, oil, and grease—that can attach to such particles, inlet and storm drain protection can keep waterways on your site clean and help you meet National Pollutant Discharge Elimination System (NPDES) Phase II requirements.

Meeting your goals for improving water quality can be easy as long as you undertake some quick research and pair the right treatment system with your site's needs.

Adjacent waterways and sensitive habitats, such as wetlands, are typically considered in advance of drawing up a stormwater management plan—if only to meet permit requirements—and a combination of erosion control techniques, particularly during an ongoing construction project, may be necessary. Often, the filtration solutions are added after a project's construction ends. In fact, the US Environmental Protection Agency recommends a combination of techniques be used with storm-drain inlet protection, such as small impoundments or sediment traps, for increased effectiveness.

In most cases, these types of devices can handle the fairly clean runoff that comes from an average rainfall. But in arid climates where the dry soil can easily wash away with a flow from a heavy rain, clogging can occur. For maximum success at your site, storm-drain protection requires maintenance. As the EPA points out, "If sediment and other debris clog the water intake, drop inlet control measures can actually cause erosion in unprotected areas."

Whether your project's needs entail long- or short-term solutions, a variety erosion control and stormwater specialists shared some examples detailing how protecting a site's waterways from sediment and pollutants can be achieved efficiently.



**Photo: ERTEC**

**This Combo Guard was anchored with gravel bags placed on both sides of the grate. It can also be anchored with special hooks supplied by the company.**

Mike Dotlich, general foreman at Haselden Construction LLC in Denver, CO, and trained by the state of Colorado for stormwater management, says he's noticed an increase in education about stormwater plans. He's worked with a worldwide corporation in the past and he has noticed a trend that has made "everybody knowledgeable" about an area of planning that was practically nonexistent in the not-too-distant past.

"The government's getting stricter," he explains, noting what prompted this change. "We're educated." Learning more about the process and permit requirements can help contractors better select products that are best tailored to their individual sites.

Recently, Haselden constructed an addition and completed a renovation of the Auraria Science Building on a 5-acre site at the Auraria Campus in Denver, which services the University of Colorado at Denver, the Community College of Denver, and Metropolitan State College of Denver.

Approximately 200,000 square feet of new space was added to the site, and the existing 142,000 square feet of space was renovated following Leadership in Energy and Environmental Design [LEED] requirements for design and construction of green buildings. These efforts, which included energy conservation, helped the project achieve LEED Gold certification.

Classrooms and laboratories in the facility are state-of-the-art facilities on a campus that is used by one-fifth of all public higher education students in the state. With such a highly visible project, aesthetics and lasting durability were concerns during construction.

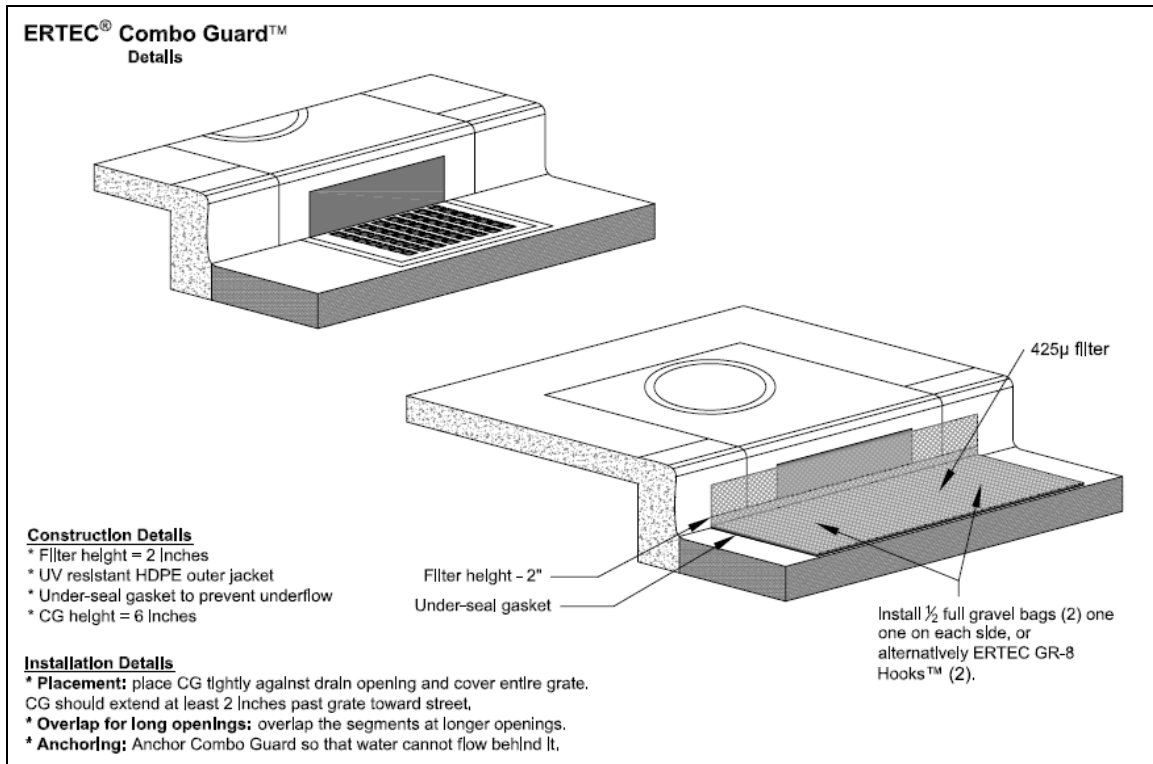
"I used Combo Guard™ on Spear Boulevard, one of the main thoroughfares through Denver," says Dotlich. The product, a four-layer system made of HDPE that is engineered to capture sediment while allowing stormwater to run off a street into curb and grate storm drain inlets, has an integrated filter that is 2 inches high vertically, allowing for bypass in major storm conditions. The reusable system, which weighs about 4.5 pounds, is produced by ERTEC Environmental Systems, based in Alameda, CA, and can be anchored by gravel bags or GR-8 hooks sold by the same company. The product seal controls underflow at the site. Combo Guard™ was selected for the project based on installation and maintenance ease.

"Combo Guard™ goes over the inlet. The water flows over the curblin into that," Dotlich says, noting that the product held up to the nearby traffic and that snowplows didn't rip it. "I also used ERTEC's S-Fence™. I had a traditional silt fence up originally. The silt fence deteriorated at the site. People would run over it. If somebody did run over S-Fence™, it would pop back up. You don't put in as many man-hours with S-Fence™ as you would with silt fence around your property.

"It took three days to complete the ERTEC S-Fence™ installation, but if I put silt fence in there it would have taken me two weeks," he notes. "The silt fence stakes are hard; they break, and you have to patch them. It would have taken three times the man-hours."

The site is located "in the middle of the public eye," explains Dotlich, noting that regulators drive up and down the street daily. Some ERTEC S-Fence™ has also been used on a dirt area and a grass area on the site, and it was buried three inches into the ground with 7 inches above ground. The project, begun in 2008, is ongoing.

"We've had a very wet summer and a very snowy winter," says Dotlich, who describes the monitoring involved with the Combo Guard. "We monitor it every day if we have an event of rain or snow. On a typical basis, we check it twice a week. It works wonderfully."



### California Pipelines

The Pacific Gas & Electric Utility Co. also used Combo Guard™ for curb-grate combination inlets on a 6-mile pipeline site extending from Folsom to El Dorado Hills, CA, during the late summer and fall of 2006.

Because a pipeline builder needs a sediment control system that's easily transported as the project progresses, the Combo Guard™ was selected over other systems that require more labor for installation or are difficult to remove. The guards were anchored in place along the site with gravel bags placed on both sides of the grate.

"Combo Guards™ worked great for us on this project," says Lyn Hudgens, safety representative for General Construction-Gas at PG&E. "They were easy to install, maintain, and reuse, and we never had to lift heavy grates. We used Combo Guard™ in several cities, and the inspectors liked the product."

Finding the right short- or long-term solution for your site may seem daunting. The wide variety of choices available should be considered in addition to your project's budget, size, scope, and climate. Reviewing those few considerations now can save your company