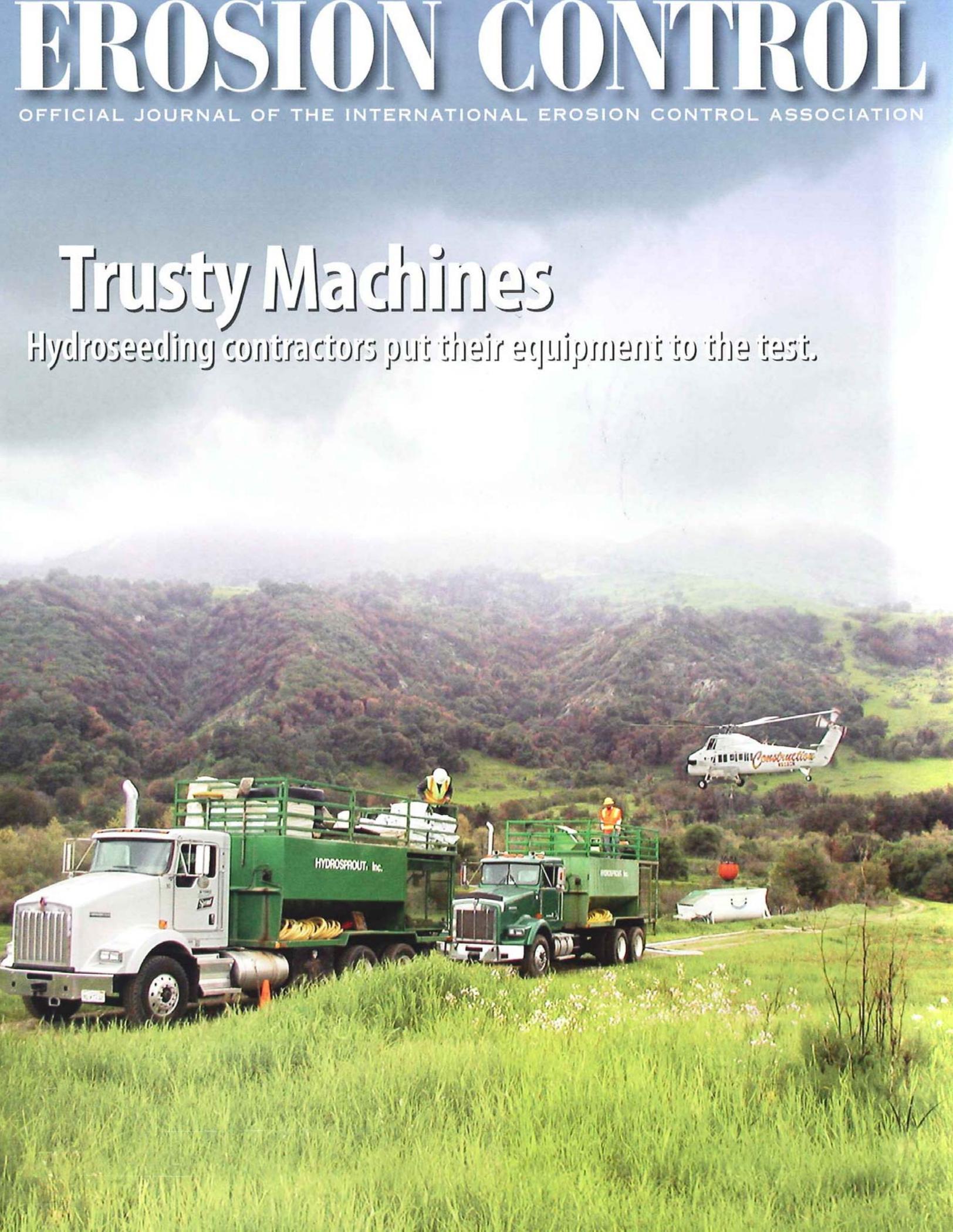


# EROSION CONTROL

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## March-April 2009

# Sediment Control During and After Construction

Protecting storm drains and inlets



Photo: Frank Jackson, MGS Environmental

By Roberta Baxter

After the National Pollutant Discharge Elimination System (NPDES) Phase II went into effect in 2003, sediment control on construction sites became a priority. Hefty fines can be levied against sites releasing sediment; Phase II applies to construction sites of between 1 and 5 acres, smaller than the 5-acres-and-larger sites covered under Phase I.

Contractors, engineers, and installers around the country are searching for the right mix of products for sediment control on job sites. Many factors come into play: cost, ease of installation and maintenance, durability, and performance.

Some best management practices (BMPs) are used during construction to prevent polluted runoff from leaving a site. Others are more permanent, intended to control post-construction runoff. A multitude of products exist for each application. Examples from around the country may point you in the right direction for your project.

Temporary sediment control products need to be able to handle heavy sediment loads coming from cleared land and heavy truck and foot traffic. Temporary does not mean cheap, but fines for noncompliance during the construction phase can cost much more.

### **Texas Storms**

Frank Jackson, project manager of MGS Environmental in Arlington, TX, uses many temporary BMPs during the construction phase of his projects. A recent project in Arlington was a 35-acre residential development called Cinnamon Creek. The area was to be divided into 125 lots with two large public areas. According to Jackson, many developers in Texas have been using erosion control blankets for sediment control. But they

are often not used in the proper way, and when they are stepped on, they tear and do not provide effective sediment control.

For the Cinnamon Creek project, Jackson bought about 8,000 linear feet of Perimeter Guard from ERTEC Environmental Systems of Alameda, CA. "It performed beautifully," he says. The Perimeter Guard was placed around the entire community and in the areas that would carry truck traffic. Crews also installed Edge Guard in less-traveled areas around the common areas. Curb Inlet Guard was also used. The project subcontractors encouraged their workers to temporarily remove the Edge Guard before driving over them to increase the longevity.

ERTEC makes products for sediment control during construction. These products have a "strong track record of cutting a builder's costs in half," says Vince Morris, the company's president. The initial costs may be higher, but the ease of installation, reduced maintenance, and durability during the life of the project more than make up the difference. As an added benefit, the devices can be reused, providing additional savings.

All ERTEC sediment control devices are derived from similar materials, but shaped and fitted for different purposes. The outer jackets are made from an HDPE polymer matrix, and the devices have an integrated particle filter to retain sediment and debris, while allowing water flow. They are all made to be long lasting and reusable, so a contractor can move them to another job site when the first site is stabilized.

Regarding drain inlet protection, Morris says that any products in this category must balance two concerns: the need to not back up water, which can cause traffic hazards, and the requirement to capture as much sediment as possible. "You can't do both completely," he adds, "so it is necessary to balance the two." For grated inlets, there is the added safety issue of removing heavy grates, which can cause hand and back injuries. ERTEC products can be cleaned without removing the grates.

At the Cinnamon Creek site, installation was fairly simple. Perimeter Guard was trenched into place at the curb about 1.5 inches deep and anchored to the ground. Curb Inlet Guard was placed across the inlet and small gravel bags were used to keep it in place.

Most of the time, the units were cleaned quickly in the field. Sometimes a device would have a heavier load of organic material and sediment. In those cases, Jackson says, the maintenance crews would install fresh units and carry the dirty ones back to the shop for cleaning.

The Dallas-Fort Worth area received several significant rain events during the project, including heavy rain from the remnants of Hurricane Ike. Jackson and his crews watched the installations closely during the storms. "They slowed the flow of water and reduced sediment movement onto the street," he notes. He also likes that the devices are reusable in contrast to other products that end up in the landfill.

### **California Homebuilding**

In Stockton, CA, Combo Guard™ from ERTEC was installed at a residential building site to provide filtration of stormwater before runoff flowed into storm drain inlets. The Combo Guard has two sections to fit combination curb and grate inlets. The vertical part is 3 inches high and handles high-flow water conditions, while the horizontal part is anchored with small gravel bags to capture sediment during lower flows.

The alternatives considered for the site were drain inserts, but these products can be difficult to install and maintain because they sit inside the inlet. The grates must be removed for installation and maintenance. Combo Guard can be cleaned in place without removing the grate.



**Photo: Frank Jackson, MGS Environmental**  
Curb inlet site perimeter protection on a 35-acre residential development

As with most devices, maintenance is a critical component of the performance of these devices. A filter or bag that is completely clogged with dirt will not work. Devices that capture sediment in a sump have to be cleaned regularly to ensure continued filtration. Whatever system is chosen must be observed to determine the best maintenance schedule.

Reducing the amount of sediment, trash, and other debris in stormwater runoff will continue to be a critical issue for municipalities of all sizes. With the variety of products on the market, a solution for any situation can be found. Finding the right mix depends on the factors important to each location, whether it is cost, performance, durability, or ease of installation and maintenance.



**Photo: Frank Jackson, MGS Environmental**