



## International Erosion Control Association

### Media Release

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### For Immediate Release

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### **Colorado Engineer Honored for Excellence in Erosion Control**

Steamboat Springs, Colo. – Laura Girard, Fort Collins, Colo., has won the 2008 Environmental Excellence in Technology Award from the International Erosion Control Association for helping to develop guidelines for a practice that combines riprap and grout to protect stream and bridge piers from erosion. Featuring the use of partially grouted riprap, it offers a more flexible, more versatile alternative to rigid structures for armoring the banks of streams and rivers.

Girard is a water resources engineer for Ayres Associates, Fort Collins. She will receive the award during formal ceremonies at the annual IECA conference, Environmental Connection, in Orlando, Fla., Feb. 19, 2008. The Excellence in Technology Award recognizes a new practice, design approach or process that combines technology and environmental considerations to reduce erosion and sediment and to improve air and water quality.

Girard was part of a team that developed the guidelines. These guidelines are based in part on research of partially grouted riprap structures in Europe and the United States.

Fully grouted riprap, in which voids within the riprap usually are nearly completely filled with grout, converts a flexible layer of riprap into a rigid, impermeable mass. Its use to protect stream beds and banks from the erosive action of river currents has been discouraged in the U.S., because it can fail when undermined or lifted up by river currents.

In the case of partially grouted riprap, smaller rock and stone are placed on top of a bed or filter layer of sand, gravel and/or geotechnical fabric. Then, the voids between the riprap are partially filled with a cement-based grout. This approach retains about 50 percent to 65 percent of the void space of the original riprap. It also increases the hydraulic stability of the armor significantly over that of loose riprap, Girard reports.

“When properly designed, partially grouted riprap has an advantage over rigid structures because it is flexible when under attack by river currents, it can remain functional even if some individual stones may be lost, and it can be repaired relatively easily,” she says. “Properly constructed, partially grouted riprap can provide long-term protection if it is inspected and maintained periodically and after flood events. Also, it can easily be used with live trees and other plants in biotechnical erosion control practices that are more environmentally-friendly than riprap alone.”

### **About IECA**

The International Erosion Control Association (IECA) is the world’s oldest and largest association devoted entirely to helping members solve the problems caused by erosion and its byproduct – sediment. Founded in 1972, IECA is a non-profit organization that serves as the premier global resource for the prevention and control of erosion.

This is the 17<sup>th</sup> year of the annual IECA *Awards of Environmental Excellence* program. The Environmental Excellence in Technology Award recognizes new practices, design approaches or processes that combine technology and environmental considerations to reduce erosion and sediment and improve air and water quality.

For more information about state-of-the-art educational events and materials, please visit our web site at [www.ieca.org](http://www.ieca.org).