

THE RIVER REPORTER CLIMATE CHALLENGE

Business carbon impact worksheet Household carbon impact worksheet

newsstories

'Soil Nail Launcher' tackles tricky repair

Declassified military tool makes it possible

By SANDY LONG

SHOHOLA TOWNSHIP, PA — On the Pennsylvania side of the Pond Eddy Bridge, Rosa Road has been eroding over time and sliding into the Delaware River below. Repairing the steep bank would normally be a challenging feat involving multiple permits and a lengthy complicated process. But thanks to an unusual technology and a federal grant totaling \$494,417, the project is currently underway and expected to be completed before winter fully sets in.

Shohola Township supervisor Nelia Wall said the project is a cooperative effort between the township, the Penn State Dirt and Gravel Road Program (PSDGRP) and the Pike County Conservation District. The grant is managed by the state through PennVest and required an extensive application procedure that Wall initiated in early spring 2009. The road was seriously undermined in four places, according to Wall.

The specialty contracting firm, Soil Nail Launcher, Inc., and its innovative tools were identified as a possible solution to the Rosa Road landslide problem by the PSDGRP, which regularly funds road repairs in the township. The company specializes in challenging slope stability problems in various geologic settings.

The Rosa Road project is utilizing the Soil Nail Launcher (SNL), a declassified British military tool that can accelerate a 1.5-inch diameter, 20-foot long steel bar to 220 miles per hour. According to its website, as the high-speed projectiles enter the earth, a shock wave is generated at the tip that causes the soil particles to "jump away." The bar enters the earth and the soil particles then collapse onto the bar, providing surprisingly high pullout resistance.

The SNL is typically mounted on a tracked excavator and weighs roughly two tons, making it portable and able to access remote locations and hard to reach applications such as the conditions found at Rosa Road.



Copyrighted photo by David B. Soete

Crews repair and stabilize a badly eroded section of Rosa Road in Shohola Township, PA, utilizing an unconventional technology called the Soil Nail Launcher. Pipes are inserted at high force into the bedrock. Steel rods and cement are then inserted into the pipes. Wire mesh will be installed over the pipes and four to six inches of concrete will be poured over that. The approach allows for such repair to be done from above the guardrail, rather than by entering waterways. (Click for larger version)

Sections

- News
- Editorial
- Columns
- Feature
- Arts & Leisure
- Outdoors
- Sports
- Obituaries
- Photo Gallery
- Classifieds

Directories

- Government
- Calendar
- Links

TRR

- About us
- Supplements
- Archives
- Advertising
- Photo Reprints
- Subscribe
- Newsstands
- Contact us

Submission

- Press release
- Event
- Classified ad

Amphibian

- Amphibian
- online

"This technology does not require the firm to enter into the waterway to repair landslides, because it's done from the roadway over the bank," explained Wall. That fact alone allows for the elimination of much of the permitting process usually required by the Pennsylvania Department of Environmental Protection, saving considerable time and effort, and reducing the length of time required to complete the project.

Visit soilnaillauncher.com/SNL/Other/index.html for more information or call the Shohola Township office at 570/559-7394.

Problems? Comments? [Contact the Webmaster.](#)

Entire contents © 2009 by the author(s) and Stuart Communications, Inc.