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Engineering News-Record

August 15, 2011 ■ enr.com

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# CRITICAL PATHS

Cooperation crucial to achieving 9/11 memorial deadline

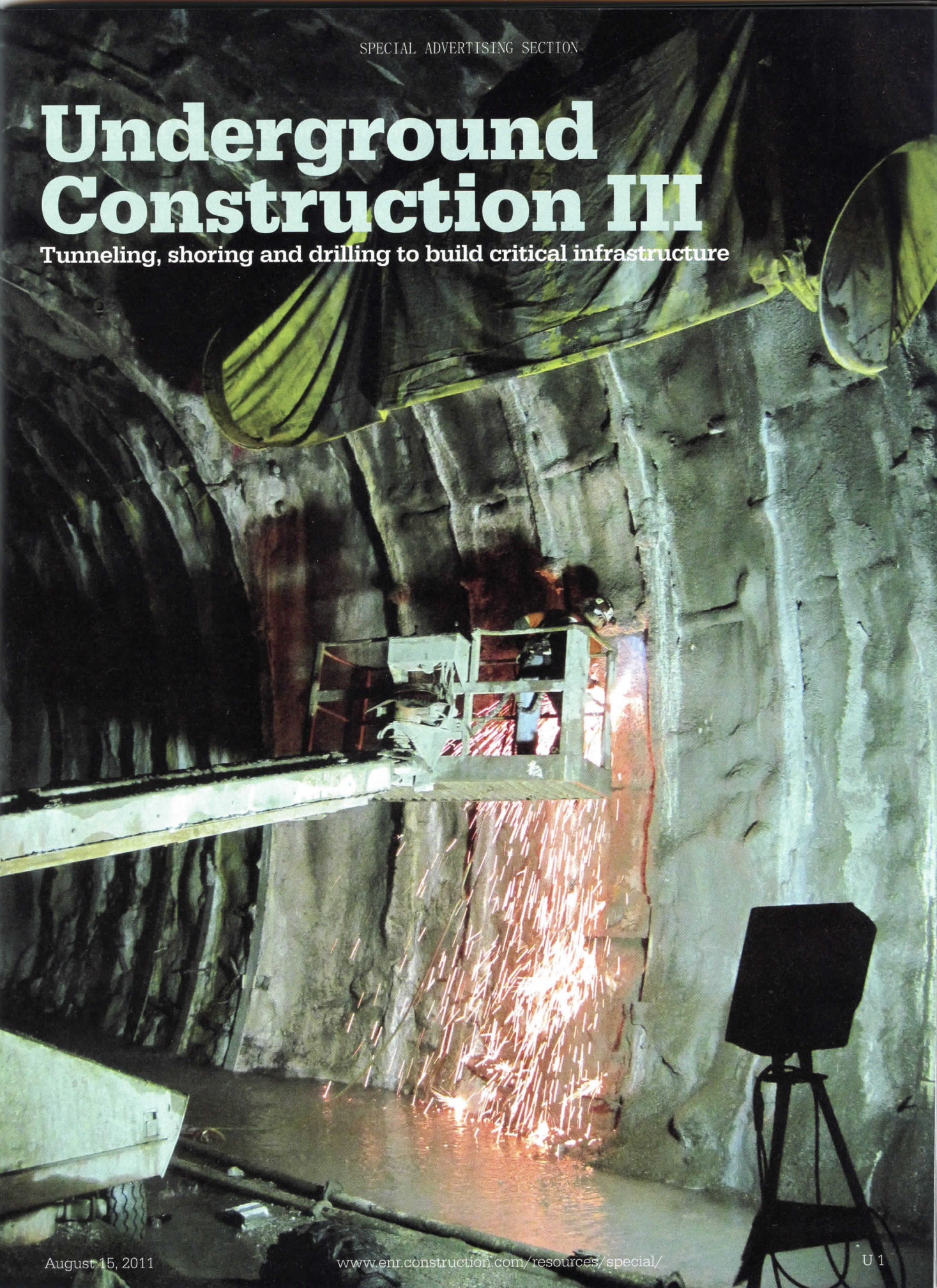


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CONSTRUCTION



# Underground Construction III

Tunneling, shoring and drilling to build critical infrastructure





## Knowledge and Tools

An interview with Simone Trevisani, managing director of Soilmecc S.p.A.—a division of the Trevi Group—which manufactures ground and underground construction equipment



Simone Trevisani

**Q: What should today's equipment suppliers be bringing to their customers?**

**A:** Your equipment provider must do more than demonstrate new features. It must become part of your team, supporting your choice of equipment, tools and technology. Your equipment provider can only do this if it brings experience, technology, consistent presence and a collaborative attitude.

**Q: What's the most important attribute within the underground construction industry?**

**A:** Experience has the highest value because of the ever-present risks associated with unforeseen conditions. Proven experience ensures that the solutions offered to the customer have already been carefully considered for performance, flexibility and reduction of risk.

**Q: How can builders gain a competitive edge through technology?**

**A:** Technology must be proven by job site performance and years of innovation, testing, improvement and revision. Technology only offers advantages when its implementation is smooth and operation is user-friendly and reliable.

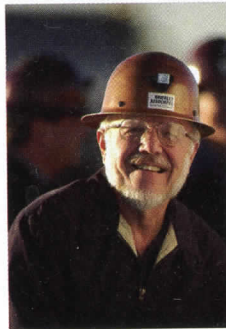
**Q: What level of service should contractors be expecting from their equipment suppliers?**

**A:** The best equipment providers are consistently present, attentive and supportive of the customer, offering value through services that enable higher productivity, minimal down time and better quality control. A collaborative attitude avoids friction and enables the adoption of new technology and equipment. No real team performs without it.

The underground contractor already faces a multitude of challenges in today's competitive market. You do not need issues with your equipment, tools or technology. It is our job to provide an integrated solution which creates a competitive advantage for your team. ■

## Is America "Undeveloping"?

by Gary Brierley, PhD, P.E., pres. Brierley Associates LLC



Gary Brierley, PhD, P.E.

Money spent on infrastructure is the ultimate long-term investment in the well-being of society. Not only does this money generate highly valuable short-term economic activity, but the completed facilities also generate long-term returns. Studies have shown an almost one-to-one correlation between the amount of money invested in infrastructure and economic expansion. Also

interesting is the fact that infrastructure investment is divided between both the private and public sectors of the economy. For instance, most communications, energy projects, housing, railroads and airlines are privately funded while most highways, mass transit, airports, ports, canals and almost all water supply and waste disposal facilities are in the public domain.

I am more than a little agitated about the status of infrastructure investment in America. Humungous societal requirements and/or environmental restrictions have been placed on construction projects and all of the talk about taxing energy companies does nothing to improve the economy. Who does the government think is ultimately responsible for paying those taxes? Even worse, as infrastructure deteriorates then an increasingly large amount of money must be devoted to maintenance which provides very little long-term return. Maybe we need to coin a new word for countries that could be called "undeveloping," i.e. countries that are allowing all of the previous generations' infrastructure accomplishments to go to waste. Based on my understanding of what is happening in America right now, I'd say that the United States would be high on the list of undeveloping countries.

“Studies have shown an almost one-to-one correlation between the amount of money invested in infrastructure and economic expansion.”

The civil engineering industry in America is more than ready, willing and able to address this issue and to help reinvigorate America's "can-do" spirit if the political and bureaucratic classes would simply get out of the way or, preferably, participate in the process in some meaningful way. It will be interesting to see how bad things have to become before the politicians and bureaucrats see the infrastructure light at the end of their myopic tunnel. ■



## Hydraulic Struts Used to Support Wet Soil

The U.S. Army Corps of Engineers is constructing storm drains in Napa, California, for flood control. The project is called Initiate and Complete Construction of Napa Creek Site, and the general contractor on-site is Proven Management of San Francisco.

It involves two large two-barreled diversion culverts, grade control structures, scour aprons and bank protection along Napa Creek starting from its confluence with the Napa River and proceeding upstream approximately 3500 ft to Jefferson Street. The downstream diversion culvert is approximately 464 ft in length and the upstream diversion culvert is approximately 452 ft in length. Each diversion culvert is a two-cell reinforced concrete box (each cell being 11 ft wide by 12 ft high). Work also involves general demolition, tree removal, replantings, detours, parking lot reconstructions, intersection and street reconstructions, bridge demolitions, the Behrens Street bridge replacement, cul-de-sac improvements, retaining wall construction, utility relocations, and terrace grading. Bank protection includes riprap along with a number of bio-engineering measures including in-stream woody material, vegetated reinforced soil slopes and significant plantings.

As the depth of the excavation increased, it became important to stabilize the surrounding environment, particularly because there was an 1885 historic building adjacent to the culvert. The contractor chose GroundForce hydraulic struts from United Rentals in place of typical I-beam struts, to support the wet soil as well as the pressure the historic building put on the excavation. United Rentals Trench Safety employees involved were Andrew Sinchak, Greg Nethercott, Blake Smith and Chuck Peterson. ■



Hydraulic struts in place on shoring.



SR-80 Low Headroom Rig at job site in Rhode Island, USA. Photo courtesy of Aldridge Electric, Inc.

## Power Under Lines

An entirely new design concept behind the SR-80 Low Headroom rig makes it the clear choice for versatility and capability at project sites with confined headroom.

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