

FOUNDATION

Foundation Firms Seeing Improvement Business is getting better.

By Larry Kahaner

That's the word from foundation companies. Although projects are not coming along as fast or as plentifully as they did before the recession, company officials are seeing a slow but steady improvement in the pace of inquiries, bids and projects.

"Clearly, there's been a reduction in the amount of work because of the economy," says Jim Hussin, Director at Hayward Baker, Inc. (www.haywardbaker.com), headquartered in Odenton, Maryland. "But we've turned the corner. There's not a rapid rise, but we've seen some improvement... we've definitely seen a pick-up in the past year."

Hayward Baker offers a full range of pre- and post-construction services for foundation rehabilitation, settlement control, liquefaction mitigation, soil stabilization, groundwater control, slope stability, excavation support, and underpinning. The company has 20 offices across the United States, as well as locations in Central and South America, and Canada. "Soil mixing is growing rapidly, and the techniques of handling soft soils has evolved over past years," Hussin notes. "We're now finding more applications in areas that were thought to be too expensive, but are now economically viable." He adds: "We have a full range of techniques that are available to clients, and we can get creative and offer innovative solutions to their problems."

In the near term, Hussin forecasts that more of their work will be in horizontal markets such as infrastructure, roads and bridges. In vertical markets, he sees more work in hospitals, education and power. "We'll see a recovery in commercial first, and then residential will follow."

Bob Carnevale, Business Development Manager at Seattle-based DBM Contractors, Inc. (www.dbmcm.com), agrees that business is improving. "The construction industry is suffering compared to two or three years ago, but we have been diversified across public and private work. Traditionally, when one is up, the other is down. Prior to the most current downturn, though, they were both up. Since then the private sector has dwindled, so like most other construction companies, we've been making our living from public sector projects." He adds: "We think we're bouncing along the bottom and our indicators during the last six months seem to show that we're

beginning to move off the bottom with slow growth over the next few years."

The company has recently been building its ground improvement business. "It's more diversification for us. Our approach has always been to be diversified across different but related techniques and applications." The company, which has been in business for 60 years, is geographically diverse, too, covering the 12 Western states including Alaska and Hawaii. It also maintains regional offices in California.

Tony Jacobsen, Senior Engineer at Grip-Tite (www.griptite.com) of Winterset, Iowa, which has been manufacturing earth anchoring products for almost 90 years, is seeing a rise in demand, too. "We're starting to see a pick-up in industrial work. We're also seeing some increase in residential retrofit, usually two stories or less."

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“The market has shrunk, but we’ve doubled our business. We continued to hire people to do R&D work.”

Jacobsen is seeing a trend toward larger diameter helicals, especially the 2 $\frac{7}{8}$ -inch and the 3 $\frac{1}{2}$ -inch, both for new construction. “We are within six months of providing a 4 $\frac{1}{2}$ -inch diameter helical for three-story concrete building and lateral loads.” He adds: “We’re pushing toward a 1 $\frac{3}{4}$ -inch square bar for retrofit and tie backs for new construction...next year we’ll see a 2 $\frac{1}{4}$ -inch square bar, helical shaft, mainly for new construction.”

Jacobsen notes that the new diameters will allow the company to get into higher density materials and provide some benefits in highly-expansive soil, like that found in the Front Range in Colorado, which is the most populated region of the state.

Also touting the benefits of helical piles is Stephen Petres of MacLean Dixie (www.macleandixie.com), located in Franklin Park, Illinois. “The market has shrunk, but we’ve doubled our

business,” says Petres, who has been involved with helical piles for 39 years. “We continued to hire people to do R&D work.”

The company serves both the utility market and the civil market with a complete line of helical piles, from small to large, says Petres, Product Manager – Anchoring Products. “We’re trying to offer an alternative product for engineers who are not familiar with helical piles. We want to address the issues of why engineers are not using more helical piles.”

To this end, the company has done two things. First, it came up with their *Strength Squared* coupling system. Petres notes that engineers are wary of using pipes with drilled holes, fearing that they will deform. “So we came up with a square engagement system which gives engineers confidence that they’re not going to have bolts that shear. We’re offering strength to structural engineers.”

Second, the company submitted its helical piers for testing by an accredited laboratory. “We spent money to submit some of our products to an ICC AC-308 evaluation program, about a year and a half ago. We expect certification this year [2011].” He says that the company has already been assigned preliminary certification numbers for their 1 $\frac{1}{2}$ -inch, 1 $\frac{3}{4}$ -inch, 2 $\frac{7}{8}$ -inch and 3 $\frac{1}{2}$ -inch products. “After certification, structural engineers will have the confidence to use our products because they have been tested by an accredited lab. They can study the data themselves.”

Petres is confident about the growth of helical piles as engineers are asked to squeeze even more costs out of their projects. “There’s greater pressure for SEs to cut costs, and I think they’re becoming more open minded about alternatives like helicals,” he says. (See ad on page 38.)

Monotube Pile Corporation (www.davidsonpipe.com), part of the Davidson Group of Companies, is dedicated to manufacturing steel piles for exclusive use in the deep foundations industry. The Canton, Ohio company mainly serves the United States market, says General Manager Sam Kosa. “It appears that highway work is increasing slightly. We’re seeing more bidding action.” He adds: “We’re starting to see more activity in government projects,

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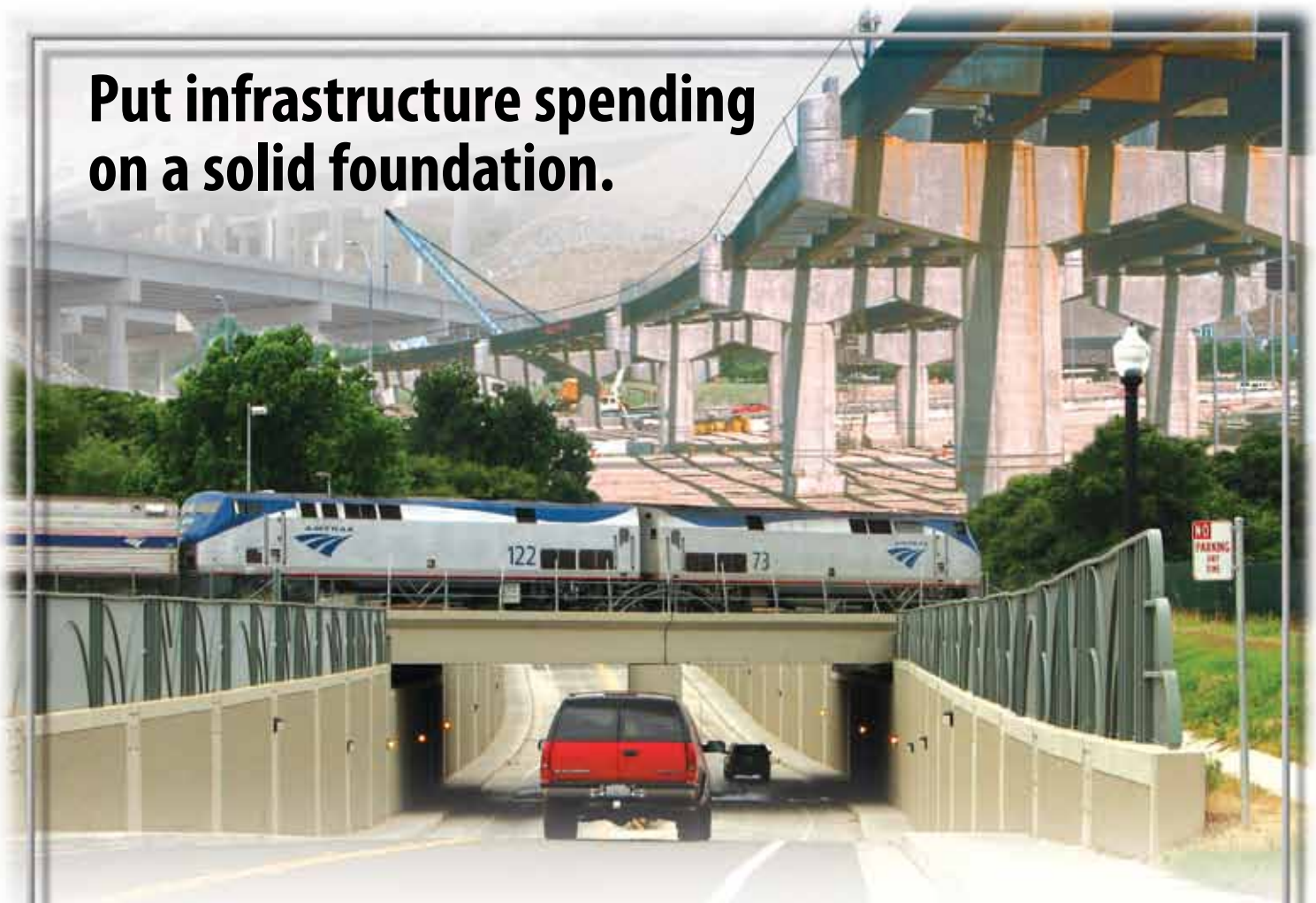
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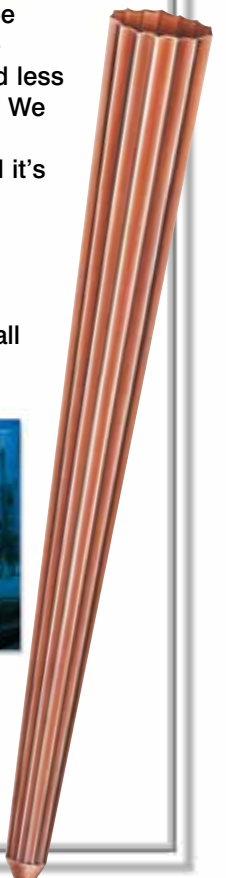
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and we're anticipating more government jobs this year."

The company offers four diameters, four gauges, and three rates of taper that allow the designer to select a Monotube suitable for a wide variety of economical applications. For fully embedded foundation piles, the most commonly used diameters are 12 and 14 inches, with design loads up to 150 tons, contingent on soil capacity. Kosa notes that one advantage of the Monotube pile is the ability to nest a tapered section into an extension to produce a compact bundle. This process reduces shipping and storage volume by as much as 40 percent.

Felix Ferrer, President and CEO of Fairfield, New Jersey-based SAS Stressteel, Inc. (www.stressteel.com), says that business is definitely getting better. "Some projects that were stopped two years ago are coming back to life. Developers are now talking to us about new sites, new developments and new projects in New York City. We have picked up some work, and it's getting pretty exciting."

He says that his company offers 3-inch diameter grade 150 bar anchors, each with a capacity of 1,028 kips. These anchors are being used to tie down One World Trade Center – about 230 anchors that are about 90 feet deep – and also will be used on the other buildings in the complex. "That's pretty significant for foundations, that we're using this type of tie-down technology."

In the area of ground improvement, Lyle Simonton, Director of Business Development for St. Louis-based Subsurface Constructors (www.subsurfaceconstructors.com), says the company has done well in the past year. "We had an extremely busy year. There is still a lot of work: DOTs, wastewater, schools, medical, etc." The 100-year old company is working on some high profile projects, like deep foundations for the new Mississippi River Bridge Missouri approach and ground improvement work for the Indiana Department of Transportation. He further notes that some

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retail commercial projects are coming on line, too, such as senior living facilities.

Simonton says that the company has been highlighting the green benefits of soil mitigation using its Vibro-Stone Column machines. "We can often build stone columns without having to pre-drill. This limits how much spoil we generate, so that's positive for a more sustainable construction approach."

Also touting the green benefits of soil improvement is Geopier Foundation Company, Inc. (www.geopier.com), based in Mooresville, North Carolina. "Our biggest role has been as a developer of technologies suited for any site. We have a variety of systems to treat virtually any soil condition. *Impact* systems allow us to treat to deeper depth, up to 45 feet in a cost-effective way," says Brendan FitzPatrick, P.E., Director of Engineering and Development, North America. The company highlights its *Rammed Aggregate Pier* (RAP) system, which FitzPatrick says lowers a project's carbon footprint because they're not using steel and concrete for driven piles or caissons, both of which have larger carbon footprints. "Massive

earthmovers also have large carbon footprints. We are faster and use less equipment." He adds: "As many owners are also developing more sustainable construction projects, they are exhibiting preference for this soil reinforcement approach for the LEED benefits and reduced carbon footprint, compared to more conventional foundation support options."

The RAP system is also more cost effective, says FitzPatrick. "Design teams, contractors and owners are all challenged to build more with less. Many project teams are opting for the schedule and cost benefits offered by a RAP system, as opposed to costly over-excavation and replacement, or deep foundations."

"Things are looking up on the testing side of the foundations business," according to Gina Beim, P.E., senior consulting engineer-marketing at GRL Engineers (www.pile.com) in Cleveland, Ohio. "We see an increase in remote testing. Business seems to be picking up." She credits the increase to several factors, including the cost savings involved with remote testing as opposed to on-site testing. "We have been seeing some results of campaigns to help DOT understand remote testing. Lots of structures are transmitting data now. This is a trend. We're feeling the pull for this." She notes that AASHTO's LRFD bridge design standards will lead to more testing, and that the cost effectiveness of remote testing will become of greater interest. "We hope that testing in a more economical way will give the market a method to keep standards high while offering cost-saving methods." Aside from the savings of not needing someone on site to check readings, another cost benefit is not having to ship wires and cables to the project site.

Beim adds that the company is introducing a product aimed at the drilled shaft market. It will include remote sensing. "The Thermal Integrity Profiler (TIP) inspects the integrity of a drilled shaft using a temperature method," says Beim. Now in prototype, the product is expected to be available in spring or summer. "We can inspect the drilled shaft that has been fitted with the temperature sensor remotely. It's imbedded in the shaft itself and will indicate how good the concrete is." ■

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