Whether it was pile driving for the construction of the Arch or handling soil retention for the region's vital highway system, over the last hundred years, Subsurface Constructors has become a leader in the foundation industry in St. Louis

underground

UN Y DAIRY

Earlier this year, when the city of Wentzville MO was beginning to construct a crucial water reclamation plant to serve the demands of its rapidly growing population, they faced a challenge: poor soil coupled with a high water table that made the ground at the site even more unstable.

City officials assumed they were looking at a considerable expense to drive pile down to rock to give the plant the stability it needed.



Subsurface turns 100!

It's not how long you've been doing it, It's *how* you do it.

We are honored to be your friends. Congratulations from Castle



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It's About Success

McGrath & Associates, Inc. would like to congratulate **Subsurface Constructors, Inc.** for 100 years of distinguished performance and outstanding service in the construction industry.

Throughout our 24-year partnership, we have turned to Subsurface Constructors' EXPERTISE and EXPERIENCE as one of the nation's LEADING deep foundation and drilled pier contractors.

We look forward to sharing in the firm's continued success.



(314) 772-7600 mcgrathconstruction.com One of the subcontractors on the project, however — Subsurface Constructors — had a better, more cost effective idea: Instead of driving pile, they could use what is still a revolutionary ground improvement method called Vibro-Stone Columns. After considerable research last year into state-of-the-art ground improvement methods, the company had invested more than three-quarters of a million dollars in the technology that uses a probe driven into the earth that vibrates the soil, making it denser, and then fills the hole left by the probe with rock that further allows drainage. In many cases, vibro stone can convert sandy, silty soil that could support roughly 1000 pounds per square foot into ground that can support 6000 pounds per square foot.

Using the technology, Subsurface was able to save the city several hundred thousand dollars over the cost of conventional pile. Even more, the method cut a full month off the project time.

Several times over the last year, in fact, Subsurface has used vibro stone columns to save its customers time and money: on a fast track project to construct an overpass at Chouteau Avenue at Highway 40, as well as on projects for the Hazelwood school district and the University City fire department.

As it turns out, the manner in which Subsurface has embraced the technology could stand for the company's philosophy throughout its century of existence: To always look for the best solution for challenges its customers face.

Subsurface Constructors was founded in 1906, as Smith-Brennan Pile Company, by two prominent St. Louis citizens, James A Smith, a former Commissioner of Public Buildings, and politician William "Boots" Brennan. At the time, the city was in the midst of explosive growth and the two foresaw that the growth would mean a boom in construction. Between 1900 and 1910, the city's population jumped by almost 20 percent, from 575,000 to just shy of 700,000, ranking it among the five largest cities in the country.



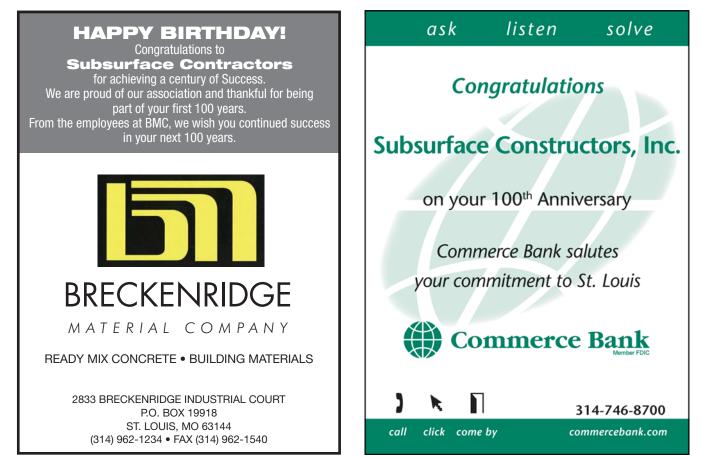
Originally a company dedicated to pile driving, Subsurface has made itself into a leader in foundation and earth retention work. Here, a retention system the company built for Metrolink.

Those early years were indeed good ones for the company, as it began laying the foundation for what would be the governing principles that would allow it to thrive for a hundred years. In the first decades of its existence, Smith-Brennan played a key role in the construction of several important St. Louis buildings, including the St. Louis Fur Exchange (which is now part of the Drury Plaza Hotel), the Mercantile Mart Building (more recently known as the Robert Young Building), a new downtown Post Office and the civil courts building, among other significant projects.

Throughout its history, the company has led the industry in the use of state-of-the art equipment and techniques. In 1914, for example-less than a decade after Smith-Brennan went into business-the St. Louis Republic, one of the city's prominent daily newspapers during the first quarter of the 20th century, published a front-page article detailing Smith-Brennan's then-record-setting work on a Laclede Gas Light building in the city's south side.

For the project, the company drove reinforced concrete piling to a depth of 50 feet. While 21st century technology allows Subsurface to drive pile to a depth of several hundred feet, 90 years ago, that 50-foot depth was a major step forward in the industry.

The newspaper reported, "The piles are. . .the largest ever driven on any contract in the United States and so far as known here on any contract in the world. Piling 25 to 30 feet long was supposed to be the largest that could be driven into the earth."



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Throughout its history, Subsurface has done work on many of the region's most important project including, in 1930, the Mercantile Mart Building.

A little more than a decade later, when the company worked on the Mercantile Mart Building, it once again found itself the subject of newspaper attention, when it drove the equivalent of roughly 32 miles of pile for the building which, at 21 stories, was an imposing structure at the time, one that would, according to the newspaper account, "dominate the city."

Smith and Brennan ran the company together until Smith's death in 1939. During the half dozen years be-

Congratulations Subsurface Constructors for 100 Years of Solid Foundations



tween then and Brennan's death in 1945, the company continued to make significant contributions to construction in the region, including work on the Curtis Wright Building and early work for what eventually became Mc-Donnell Douglas.

THOSE EARLY YEARS WERE INDEED GOOD ONES FOR THE COMPANY, AS IT **BEGAN LAYING THE** FOUNDATION FOR WHAT WOULD BE THE GOVERNING PRINCIPLES THAT WOULD ALLOW IT

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Subsurface was one of the earliest companies in the region to use drilled caissons, a method it continues to use today. Here, work on Pinnacle Casino.

After Brennan's death, the company passed to a long-time employee, Jim Burns and then, after Burns' death in 1947, to his nephew, Edwin Kuntz. Under Kuntz's leadership, the company shifted its focus slightly: over the first four decades of its existence, it functioned exclusively as a pile company; Kuntz, however, began branching out into other kinds of foundation work; he also continued the company's tradition of seeking out the best, state-of-the-art equipment in the industry, brining the first diesel pile hammer to St. Louis.

Roughly a decade after Kuntz took over the company, he met a young civil engineer named John Morgan. After graduating from Washington University in 1952, Morgan had moved to Ohio as an engineer for an atomic energy plant but returned to his native state in 1958 to go to work for Tarlton Corporation. Both Morgan and Kuntz had a passion for bird dogs and the two met at a bird dog field trial.

Aside from their interest in bird dogs, the two began discussing their mutual interest in construction, especially about possible economical alternatives to driving pile. Morgan left Tarlton Corporation to go to work for Kuntz. Specifically, Kuntz wanted Morgan to develop a new division that would offer the company's customers newer methods of foundation technology, including drilled caissons, an economical alternative to concrete pile. The method called for drilling holes into the ground and then filling the holes with poured concrete reinforced by steel rods. Two years after Morgan signed on, Smith and Brennan expanded its reach even further when it purchased the Wabash Drilling Company and began offering customers soil investigation and core drilling. That acquisition made it the largest foundation contractor in the St. Louis region.

During Morgan's involvement with the company, it has been responsible for foundation and surface preparation work on many of the most significant structures in the region, including the St. Louis Arch (for which it provided core drilling to a depth of 300 feet), the Adams

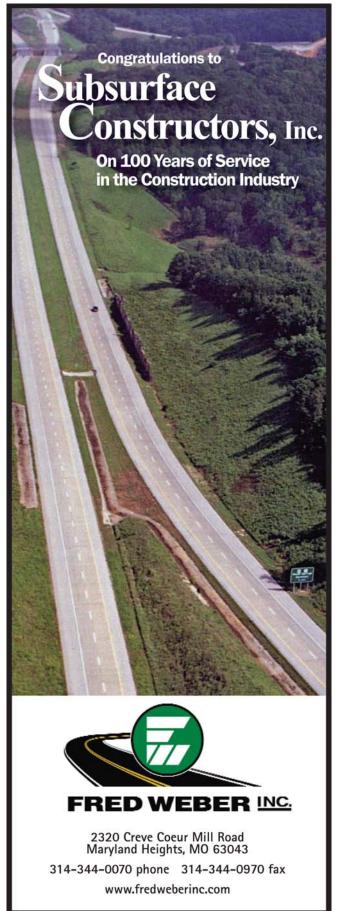
Mark Hotel, most of the BJC complex, the University of Missouri at Ŝt. Louis library, Álton Memorial Hospital, several key structures at what is now the Boeing facilities in North St. Louis County, the Missouri Historical Society, what is now Scott Trade Center, and the Pinnacle Casino project.

It has also provided tunnel shoring for the Metrolink Cross County Extension, and earth retention for a Missouri Department of Transportation project along I-270



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as well as for Cardinal Glennon Hospital.

In fact, it's difficult to travel anywhere in St. Louis without passing (or driving over) a project for which the company has played a pivotal role.

"We've done work on a majority of buildings in downtown St. Louis," said John Morgan. "When we look at the work we've done, we get a great deal of pride from the fact that we have enabled much of the growth of the region."

Morgan became president of Smith-Brennan in 1968 and later purchased the company in 1984, renaming it Subsurface Constructors, as that better reflected the range of services it could offer its customers.

In the 1990s, his sons Jim and Jeff began purchasing an interest in Subsurface. In 1998, Jim Morgan succeeded his father as president while his brother Jeff became Executive Vice President. John Morgan remains active in the business today as chairman.

Today, building on John Morgan's plans from nearly 50 years ago to make the company a full service provider of foundation support methods, the company offers its customers a range of services. Beyond its original niche as a leader in pile driving, it also offers site investigation, earth retention, drilled shafts and other foundation support, along with a variety of methods of ground improvement.

Said Morgan, "I've always thought in terms of the company as a foundation company, not just a pile driving company. If I was still just driving pile, I would be out of business."

At the same time, the company has been careful in



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its expansion: it wants to find methods that are useful for its clients and not merely adapt new technology for the mere sake of novelty.

Said Jim Morgan, "There are a lot of flash-in-the-pan methods out there and we don't simply want to start using them just to use them. We've always been very good at looking at new technology and picking through it for what's actually beneficial."

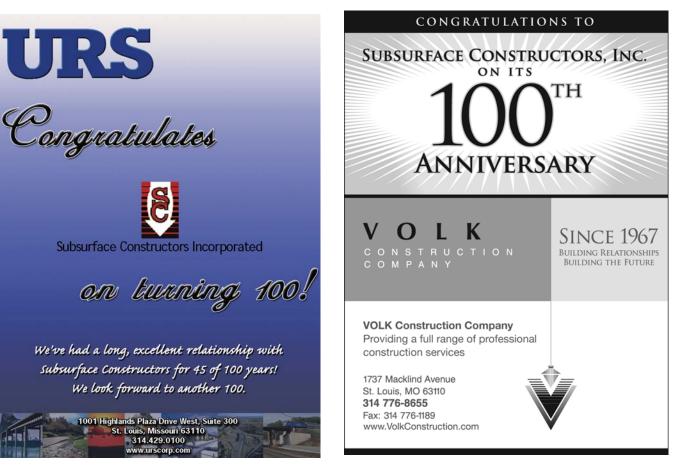
Still, the company doesn't respond to new technology so slowly that it finds itself following the herd instead of leading it.



Congratulations Subsurface Constructors on your 100th Birthday



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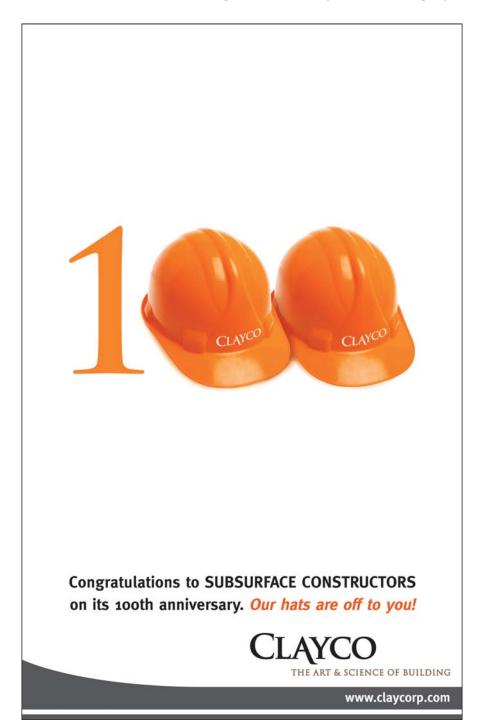
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"If it's something that is actually useful, we want to get in early and be on the front edge instead of coming in later and being a follower," said Jim Morgan.

Subsurface's clients appreciate the company's combination of traditional methods as well as its willingness to explore the state-of-the-art.

"We've worked with them for nearly 30 years, on everything from parking garages to performing arts theaters to general commercial construction," said Doug Jones of KCI Construction. "We continue to work with them for a couple of reasons. They are always looking for the leading edge of technology but they also espouse traditional values of hard work and honesty. John Morgan is the most straight-forward fellow and he has passed that sensibility on to his sons."

Added Ray Myers, project director of McCarthy Brothers, "They're knowledgeable about deep foundations. They're able to design sys-



tems that are economical, systems that save money but also speed up construction. They're extremely responsive to what we need."

As the company looks ahead to its second hundred years of existence, the Morgans are fully conscious of the importance of the careful balance the company has maintained since its founding: It continues to use what was effective over the past century while at the same time it aggressively investigates what the new century might offer it in terms of technology and best business practices.

"On any given day," said Jim Morgan, "we may manufacture and install concrete pile whose design is based on the 1938 Smith-Brennan pile while across the state we will be installing vibro stone columns with a computer driven rig."

Recently the company has begun using wireless technology that allows its engineers at its north St Louis company headquarters to monitor equipment on the company's job sites throughout the Midwest. Previously, someone at the site would have to collect data on depth and pressure on a portable USB device and send it back to the office physically for review; now, using file transfer protocol (FTP) over wireless internet, engineers at the headquarters can keep track of the progress of projects in real time, which increases the company's ability to respond quickly to problems that might occur in a project. That, in turn, enables the company to save its customers precious time in a job schedule.

"When planning our company's future, we think in terms of decades not quarters," Jim Morgan said. "We invest for the long term not only in equipment and technology, but more importantly in people. Starting with James Smith and 'Boots" Brennan in 1906, our company has always paired the right people with the right technologies to drive the company forward. We have continued this tradition by hiring great engineers and field people. We won't live to see it, but it is our hope that Subsurface will continue these philosophies on to celebrate 200 years one day." CNR