Superior Gunite Company

Delivering the shotcrete advantage for major, mega-sized projects

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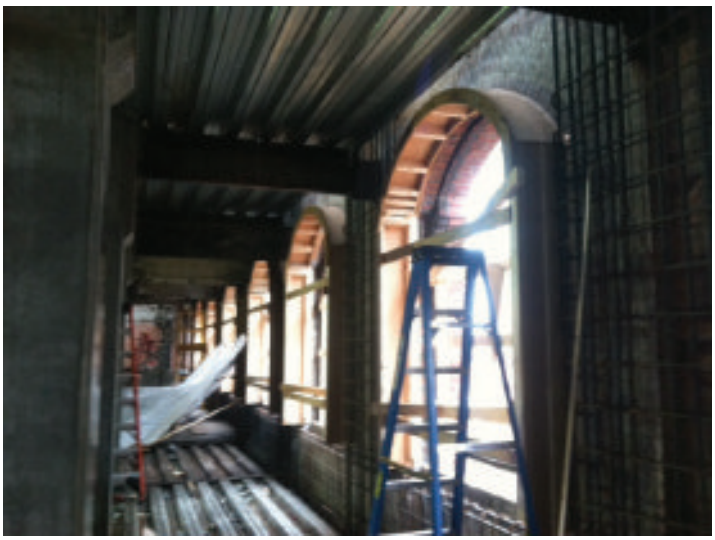
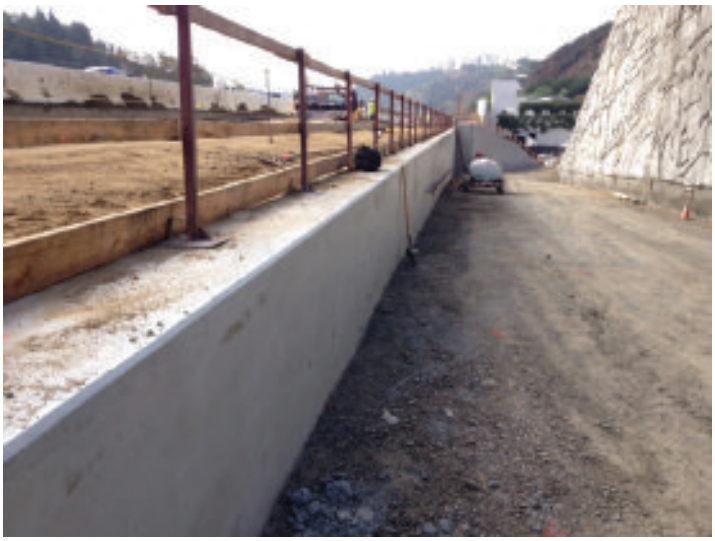
When it comes to larger-than-life projects, from the Seattle SR-99 Alaskan Way Viaduct (SR-99) to the California high-speed rail and New York City's major transit systems, Superior Gunite Company (SGC) produces leading shotcrete concrete structures that deliver in size and strength. The nationwide company has been setting the industry standard in application and technology for nearly 80 years.

"We see a lot of use of shotcrete on projects large and small," shares Larry Totten, president of SGC who has been with the company since 1976. "SGC will be doing a lot of work on the new California high-speed rail and is currently working on New York City's major transit network. We're also using shotcrete in lieu of formed and cast concrete on the SR-99 job in Seattle, as well as mass-transit projects in San Francisco."





Bringing shotcrete into the market

SGC broke into the construction world in 1956 by specializing in swimming pool construction and small commercial projects. In the early 1970s, SGC purchased Johnson Western Gunite, which was originally established in the mid-1930s. The two companies worked under the original names in different markets, but shared resources and expertise. Beginning in 2012, all operations were rebranded under the SGC name.

The company's rise to the top initiated with Tony Federico, who joined SGC in 1966 and began to expand the firm's market into the structural field. In 1979, SGC's founder retired and Federico assumed ownership. As visionary leaders, Federico, Totten and SGC's team forged a path for shotcrete to be accepted as an indispensable building solution to the challenges of construction previously dominated by conventional-formed and poured-in-place concrete.

Prior to joining SGC, Totten had worked in the field and witnessed the company's challenges firsthand. "I

was working as a civil engineer for an owner when SGC was contracted on one of our jobs," recalls Totten. "After the work was completed SGC offered me a position in San Francisco and I've been with the company ever since."

Today, SGC has more than 200 employees spanning the U.S., coast to coast from Los Angeles to New York. "We now have four main locations," notes Totten. "We operate mainly in the western U.S., but SGC has an increasing concentration in New York, as well. In terms of the process of the work we do, we're the largest specialty contractor in the country."

Leading alternative applications

As a specialty concrete contractor, SGC has been developing leading, cost-effective shotcrete applications, pioneering and opening the door to alternative applications that are preferable to conventional CIP methods. "We do air-placed concrete, also known as shotcrete, and we're able to deliver on all types of projects, from something that's $20,000 to $20 million," adds Totten.

From the technology to process and application, SGC's team has created innovative solutions every step of the way.

"SGC's engineering teams perform the due diligence to prove up the application technique then our American Concrete Institute [ACI] certified nozzle men use our custom designed and fabricated pumps and equipment, applying the shotcrete to withstand the test of strict performance criteria. Depending on the application, shotcrete can eliminate two-sided form construction or one-sided forms against existing CMU, URM or CIP walls. Shotcrete is the leading CIP alternative," reads SGC's website.

Bigger, better, stronger vital infrastructure

SGC performs on everything from high-rise buildings to tunnels, dams, bridges and reservoirs. "We perform civil and general building construction," says Totten. "SGC targets large-scale general contractors and projects because we are able to self-perform. Anything we subcontract is incidental."

Working as a subcontractor, SGC recently completed a section of the Caldecott Tunnel (Caldecott) in northern California. The four-bore highway tunnel runs through Berkeley Hills, between Oakland and Orinda, Calif., as a major thoroughfare section of State Route 24, connecting Oakland to Contra Costa County. Bore 4, the 3, 389-foot northernmost section of Caldecott, was completed in 2013.

One of the most significant on-going projects for SGC and the West Coast for that matter is the SR-99 replacement tunnel. "We've been on the job for a year now and we'll be at SR-99 for a few more years," reveals Totten. "The 2-mile SR-99 is a replacement tunnel for a two-level bridge that runs along the west side of downtown Seattle, boring a very large two-level, four-lane tunnel below the city. Our scope of work is approximately $10 million out of the $1 billion project."

Project of the year

About 800 miles south in Berkeley, Calif., stands the California Memorial Stadium (CMS), a project that earned SGC the 2012 Outstanding Infrastructure Project of the Year Award from the American Shotcrete Association. Modeled after the Roman engineering marvel, the Colosseum, CMS overlooks the San Francisco Bay area.

While in good condition for its age, the historic stadium was in need of a significant seismic retrofit and modern conveniences. SGC was assigned the task to install a heavily reinforced shotcrete layer over the historic wall and new interior shear walls for seismic strengthening. The shotcrete overlay varied in thickness, from 5 to 36 inches. Because the majority of the wall surfaces were exposed, a steel trowel finish was required.

There were several challenges in the seismic retrofit process of the high-profile stadium, one being the project's tight deadline, including a six-day workweek and double shifts. SGC had to coordinate multiple shotcrete crews working simultaneously in each area. Second, the mixture design composition was especially unique for a Bay Area shotcrete project. After testing the concrete material, SGC had to make some modifications to customize it specifically for project application.

SGC was able to overcome these hurdles by working with the general contractor and presenting the owner with value engineering proposals for the majority of the new vertical CIP concrete walls. By substituting shotcrete for CIP, SGC helped the owner achieve cost savings while maintaining the quality and project schedule. As a result, the shotcrete scope doubled in volume through the addition of the following work: retaining walls, shear walls, miscellaneous interior walls, as well as a new loading dock building structure adjacent to the existing stadium.

At the end of the day, Totten says it gives him great satisfaction to drive around major cities such as San Francisco, Los Angeles, New York and Seattle to see SGC's work playing an important role. "Watching the work we've done come to life as a serious benefit to society gives me great pride," he adds.

Like most companies in the construction realm, SGC has struggled to make ends meet through the recession. "We dipped down by about 50 percent," reveals Totten. "Luckily, we have very high employee retention and little turn over and most of our incoming work is via word-of-mouth and reputation. We're coming out of the recovery and getting back to where we were before the downturn."

As the largest shotcrete contractors in the U.S., Superior Gunite Company continues to lead the charge in innovation and expertise in the essential infrastructure that supports communities and drives life. •