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When trust is top priority



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## When trust is top priority

A visible signature of a trusted company is the demand for its products. When trust is top priority, halting production for the replacement of capital equipment requires careful consideration. Based in Texas and founded in 1899, Forterra is a leading manufacturer of wet and dry utility products including box culverts, concrete pipe, and stormwater management items. Forterra helps governments and private entities build and maintain sustainable infrastructure in the U.S.A., Mexico and Canada. Secrets to Forterra's success and sustained growth are not really secrets, it's a culture: deliver quality infrastructure products without delay, allow communities to benefit from clean water delivery for homes and businesses, enable solutions for the removal of wastewater from those community settings, and provide effective stormwater management products for safe roadways and passages. In short, Forterra keeps the water in towns and cities moving.

Forterra must also keep moving and a decision to update capital equipment would be a strategic one. Any prolonged slowdown in production would ultimately affect communities and hamper the company's mission to provide sure and steady fulfilment of high-quality products. However, Forterra faced unavoidable capacity issues at two of its Texas facilities, Cedar Hill and Grand Prairie. Dated technology and obsolete machinery prevented the company from maximizing the production of concrete pipe and precast products. Continued capacity issues would impact goals and objectives which could lead to late deliveries and reduced product availability.

Deadlines never end for a company of Forterra's stature and reputation. Consistently in need of substantial amounts of quality concrete, Forterra made the strategic investment decision and tapped Simem America to be its partner for the modernization effort across both locations. Despite the complexities of the projects at Cedar Hill and Grand Prairie, Forterra determined Simem could install concrete batching plants at the two facilities without difficulty or delay.

"When we put these projects out for bids, we looked at several of Simem's competitors. "With projects of this size... It has to be an ongoing team and business effort that will continue for years and years," said Justin Johnson, project manager at Forterra. "You need to have a relationship that lasts over time. We felt with Simem's background and expertise – and their ability to deliver necessary spare parts throughout the prod-



*Nestled in Grand Prairie, TX – a Simem WetBeton100 aggregate loading and storage solution holding 600 tons (364 m<sup>3</sup>) of material. A standard solution designed for future expansion and hot-dipped galvanized for longevity.*

uct lifecycle – that it would be a good relationship. And it has been."

### Solving Space and Time Issues

Located west of Dallas, Forterra's Grand Prairie facility creates products for the state department of transportation. Agency specifications are exacting, and inspections are comprehensive. Grand Prairie's production facilities regularly meet these demands.

In 2016, Forterra installed a new concrete pipe machine to replace the previous system which had reached the end of its lifespan and knowing the manufacturer no longer sold replacement parts. An operational excellence program was implemented to improve productivity, safety and product quality. The program identified an opportunity to improve uptime: the preexisting concrete batching plant which was unable to produce concrete at a rate to support the new pipe machine.





# THE RIGHT SOLUTIONS FOR PREDICTABLE PERFORMANCE

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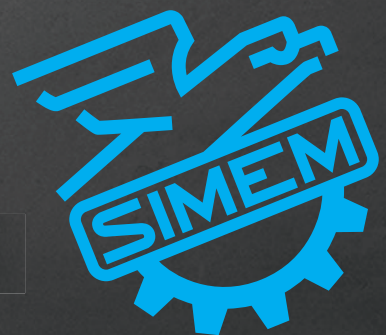
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"Not that we didn't know it, but until then, we didn't have any way to measure it," said Brian Gregory, plant manager of the Grand Prairie facility. "We found out the pipe machine was waiting for material. We had a choking point. We couldn't feed the machines as fast as it could make product."

With the larger pipe machine system already in place, a new concrete batching plant would have to be fitted within an existing equipment layout. Usually such an addition isn't problematic; a new machine can essentially be dropped in and integrated, but Grand Prairie's facility layout left little room for a conventional implementation. There was cramped access down a narrow alley that saw heavy truck traffic.

"We were restricted by the roadways, property lines and the buildings," Gregory recalled. "We had to find someone to work around what we had. We brought Simem in based on previous relationships and theirs was the best proposal. We had to use the existing plant and the existing location, so they had to figure out something that could work and fit it right here."

True creativity comes from working within the box. Unlimited resources were not at our disposal. Simem conceived a solution by working within this figurative and quite literal box. With no room for error as the work began in August 2019, Simem designed an impressive solution, solving for the cramped, heavily traveled, narrow truck alley obstacle, while boosting aggregate storage to keep pace with forecasted production demand. A 380 ft. (116 m) long aggregate loading belt 52 ft. (16 m) above the busy alley was erected. This loading solution connects a towering set of aggregate storage bins holding 600 tons (364 m<sup>3</sup>) of material, which feeds the new WetBeton100 plant equipped with a Simem MSO4001 twin-shaft mixer. Despite the late-summer Texas heat, the collective teams sequenced and completed the job quickly, allowing Forterra to resume production within three days of decommissioning the legacy plant.

"Whenever we needed anything during the process, Simem delivered right away. It was a pleasure to work with the Simem technicians, they are experts and I would work with them again, any day of the week," said Mike Haddy, equipment manager for Forterra who has traveled the world installing and repairing concrete batching and pipe equipment.

The new concrete batching plant works so effectively with the pipe machine, that the improved system has created another improvement opportunity: Grand Prairie's new batch plant now produces concrete almost too quickly. "Now that we have plenty of material, we recognize we produce at a much higher rate than the processes downstream can handle," Gregory said. "But that's more of a process improvement we'll figure out. We have overcome, 100 percent..., the problem we brought Simem in for. We're not waiting for material to reach the pipe machine."

With production moving briskly at Grand Prairie, Forterra can rely on the facility to expand into new markets, including an expansion into West Texas and Oklahoma. "It's allowed us to

extend our reach," Gregory said. "We can go after more projects."

## Planning and Communication Overcome Challenges

Forterra's production facility in Cedar Hill had somewhat similar goals and challenges. Following several months of collaboration and optimization sessions, a solution concept graduated to project status. Simem arrived in spring 2019 to begin the transformation. Forterra wanted a modern concrete production facility at the Cedar Hill site to handle increasing customer demand in the nearby Dallas-Fort Worth market. As with Grand Prairie's facility, the Cedar Hill location serves departments of transportation but also makes pipe and precast products for residential and commercial markets.

The Cedar Hill facility presented a unique challenge. With some machinery reaching the end of operating life, modernization was essential to support growth initiatives. Forterra systematically evaluates and measures the entire process, leading to planned investment for managed growth. Cedar Hill's ability to produce high quality concrete at a rate to support forecasted demand was instrumental to the growth plan.

Upgrade work started with replacing the site's legacy concrete batching plant. "It wasn't meeting demand," said Todd Arnold, plant manager of the Cedar Hill facility. "We had to either spend time and money on rebuilding the old one or put a new one in its place." Simem designed and delivered a WetBeton100-TWIN concrete plant, equipped with dual MSO4001 twin-shaft mixers, capable of producing 260 yd<sup>3</sup>/hr. (200 m<sup>3</sup>/hr.) operating simultaneously or independently to feed pipe and precast production lines.

Mirroring the logistical challenges of Grand Prairie's site, Cedar Hill's old concrete batch plant stood close to the ideal spot of a new batch plant and an existing factory building. Work teams had a tight footprint and timeline to construct a new plant which needed to be fully operational the moment the old plant went offline. Planning and a precise layout were critical, since the legacy batch plant would block access to the two production buildings. Compounding the challenge, the work teams persevered through uncustomary 30-degree temperatures, high winds, and freezing rain... a far departure from the traditional Texas heat. Still, the collective teams communicated and kept pace with the project schedule and installed the major structural components of the new batch plant in the face of adversity.

"There was some skepticism before it all," Arnold said. I didn't know if it was going to work as well as they said it would, but I'm like that with all things. I'm not skeptical now. Simem did what they promised, and they follow-up on everything. Instead of me pointing out something, they take the initiative and say they're not happy with this or that and take care of it. I'm pretty impressed with them."





Cedar Hill, TX - under construction, the Simem WetBeton 100-TWIN plant with dual MSO4001 mixer platform, control room, and second-level service floor. A compact structure designed for productive, efficient, and safe operation.





Cedar Hill, TX - the Simem WetBeton100-TWIN plant feeding two production facilities with mixer house enclosure, galvanized conveyors, belt covers, platforms and staircases.

While additional production updates continue, the new batch plant is consistently producing high-quality concrete and poised to produce designed output levels for decades to come. The facility will gradually increase output and is well positioned to service and deliver for its existing and new customers. "Simem really helped my plant out," says Arnold.

### Support After the Job is Done

Months removed from the successful implementation of the concrete batch plants at Cedar Hill and Grand Prairie, Simem representatives remain in close contact with Todd Arnold and Brian Gregory. Communication with the Simem team remains strong.

"They do a great job listening and figuring out exactly what we need," Gregory said. "We bring in people like Simem because they're experts at what they do. There's a big difference between someone coming in and saying, 'Here's what your problem is and here's how you can solve it' to what Simem did by asking 'What is your problem? Let me solve it.' They solved it."

Justin Johnson, Forterra's project manager, says Simem impressed, not just with the construction of the new batch plants and with the high quality of concrete the plants produce, but also how the company is always available for support.

Forterra, he said, will again turn to Simem for future projects as it continues to pursue new opportunities, customers and markets.

"They stand behind everything they say they will do," he said. "Somebody can build the best thing in the world, but if they don't support you afterward, it doesn't mean as much. Simem will back it up."

### FURTHER INFORMATION



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