

Contractor Paves the Way for Future Generations

Family-owned C. W. Matthews Contracting Co. Inc. celebrates 75 years as a prominent heavy civil contractor in the Southeast

by Monica Schultes

When a fire erupted beneath the heavily traveled Interstate 85 (I-85) through Atlanta, Ga., and several spans along the viaduct collapsed on March 30, 2017, C. W. Matthews Contracting Co. Inc. (CWM) stepped up with all hands on deck. Within minutes, CWM was communicating with the Georgia Department of Transportation (GDOT), and within hours, the contractor was on the job and collaborating on how to restore the bridge safely and quickly. CWM and GDOT had previous experience working together in an emergency.

Bridge engineers redesigned the spans to replace the original AASHTO Type V girders, whose forms were unavailable in sufficient quantities, with sixty-one 63-in.-deep bulb-tee beams. The project required a custom design because the horizontal curve of I-85 passing over

Piedmont Road created bridge spans in a trapezoidal shape in each direction. Using the existing bridge foundations jump-started the work. Because the collapse required closing the affected stretch of highway, work-zone traffic control was unnecessary.

Except for a brief period during a thunderstorm, work never stopped. CWM crews pulled 12-hour shifts, 7 days a week, totaling 41,781 work hours over only 42 calendar days. Two construction cameras were also on site: one streamed live, high-definition video and a second continuously captured high-resolution still images.

CWM had used construction cameras on previous projects. On the I-85 rebuild, the real-time, remote monitoring enabled the project team

to use their mobile devices to get up to speed before each shift so they could arrive at the jobsite with a plan.

Vice president of structures Adam Grist relied on the cameras to avoid delays. "If we were expecting a delivery by 8 p.m., I could verify that it happened," says Grist. On a job where every second counted, the cameras made a difference. Everyone was able to see what was going on all the time.

The bridge repair involved six spans and was staged in a stair-step fashion. As soon as the crews installed or rehabilitated columns for a bent, they were able to cap it and move on in sequential order to complete each section of the bridge, recalls Grist.

The rapid rebuild could be completed in just six weeks because of the close collaboration between GDOT and CWM. (For more details on the I-85 emergency bridge replacement, see the Project article in the Fall 2017 issue of *ASPIRE*®.)

Warp Speed

The ability to coordinate and complete projects at warp speed is a trademark of CWM. Grist says that project schedules today are more aggressive than ever before. Seeking to minimize the inconvenience of construction on the public, "owners want to get things done as fast as possible."

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However, accelerated projects demand an extreme amount of resources in a short amount of time. "We gear up for



The setting of the last beam in what was a marathon emergency reconstruction effort to restore traffic to six spans of Interstate 85 through Atlanta, Ga., in just six weeks following a massive fire beneath the bridge on March 30, 2017. All Photos: C. W. Matthews Contracting Co. Inc.

these fast-track projects, but when they are completed, we have to rebalance our workload," Grist says. "In addition, the sheer amount of hours these types of projects command raises concerns about safety and employee burnout. With all the accelerated projects, the amount of work being performed on nights and weekends has increased considerably. Atlanta is no different than other highly populated metro areas where you have thousands of vehicles per day on the roads and bridges."

Talent Scout

As the construction industry scrambles to supplement its aging workforce with young talent, companies must make creative efforts to reach potential employees. CWM takes a proactive approach to finding, attracting, and keeping new employees. "Construction used to be a profession with unlimited employee resources," recalls Grist. "Now it is much harder to recruit." Like many construction firms, CWM has found that its biggest challenge is determining how to develop, train, and retain the next wave of skilled craft and supervisory employees. CWM is also cognizant of the need to transfer decades of knowledge and experience from the employees who are poised to retire to the next generation.

The Encore Parkway Bridge replacement in Alpharetta, Ga., improved traffic flow and access across State Route 400. The new structure, which features stained concrete with a formliner finish that emulates natural stone, serves as a gateway to a newly developed commercial corridor.



In the last five years, CWM has been actively seeking individuals who want to work in construction. In a new initiative, a former high school teacher visits technical and high schools to encourage students to consider a career with CWM.

"Not everyone has college in their future," says Grist. "By partnering with schools in Georgia, we demonstrate our support for construction management training and present the myriad opportunities in both our company and the industry. We have many examples of employees who started as laborers and advanced to upper management positions." To illustrate their enthusiasm for bringing on new hires as well as to generate some excitement after drafting them onto the CWM team, the firm has begun a "signing day," complete with team jerseys and photo ops.

Employees are also attracted by the fact that much of the company's work is in Georgia. Based in Marietta, CWM is positioned to serve the Atlanta area, which is the ninth largest U.S. metropolitan area and one of the fastest growing regions in the United States.

"I think that being local is a benefit to our company," explains Grist. "Most

of the time, our crews will be able to return home to their families. Their location allows them to work within a 200-mile radius from their Marietta base of operations. That helps us to retain employees."

One project close to home was the Encore Parkway Bridge replacement in Alpharetta, Ga., constructed in 2015–2016. The \$14.6 million project transformed a local cut-through into an east-west connector. The existing bridge was replaced by a wider structure with dedicated bike lanes, sidewalks, and a landscaped median. The new bridge is 116 ft wide with two 150-ft spans over State Route 400. Each span has 18 prestressed concrete 74-in. bulb-tee beams.

As a catalyst for economic development, the project included unique aesthetic enhancements. A special formliner was used on the bridge and walls to emulate natural stone. All of the concrete was stained on site with a multicolor stain.

Exceed Expectations

CWM fosters a good working environment for employees and values its long-standing relationship with GDOT. "We strive to maintain our partnership with them on all of our projects, and that collaborative effort makes it easier when a crisis happens," says Grist.

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For example, when the 2017 fire under I-85 gridlocked Atlanta, GDOT and CWM "chose to proceed without a finalized contract," Grist notes. "We relied on our relationship with the owners, and they came through." Time was of the essence, and cutting through the red tape allowed work to start as quickly as possible. GDOT was also able to be more efficient and expedited reviews, enabling CWM to work continuously without delays.

“Since the emergency repairs, we have devised schedule scenarios to rotate our crews,” explains Grist. The I-85 project required a 24/7 effort, but CWM understood that people cannot work 40 days straight. “Now we schedule breaks for employees to have sufficient rest.”

Railroad Crossing

Another notable partnership between CWM and GDOT was the project to replace the 81-year-old Greenville Street Bridge in LaGrange, Ga., which had been closed to vehicular traffic for two years before construction started in 2018. One of the many challenges facing the project team was how to work proximate to the two sets of railroad tracks without interrupting rail traffic.

Excavation for the foundations came within 15 ft of the tracks, and vertical clearance was also restricted over the tracks. Collaboration between CWM and GDOT was necessary to overcome the constructability issues. CWM offered a value-engineering proposal that resulted in the addition of two straddle bents for significant cost savings, with no adverse effect on the construction schedule.

Design-Build

GDOT has been increasing the number of design-build projects it has under contract. “We like the flexibility and creative approach design-build fosters;

The 426-ft-long Greenville Street Bridge in LaGrange, Ga., uses two complex intermediate straddle bents to pass over two heavily used railroad tracks.



C. W. Matthews Contracting Co. Inc. sets a precast, prestressed concrete girder for the Interstate 75/Interstate 24 Interchange project in Tennessee. Several nighttime roadway closures were required for setting the girders at this and other overpasses on the project.

however, that does push more risk to the contractor,” says Grist. With the understanding of the risks and rewards and the strong team of people and equipment, CWM thrives in that environment. “We just completed our first design-build project in Tennessee. We like the challenge, have the right people, and can plan for those contingencies,” Grist says.

The Tennessee Department of Transportation (TDOT) contracted with CWM on the first phase of the Interstate 75/Interstate 24 interchange modification in Chattanooga. Completed in August 2021, the \$132.6 million project included 11 bridges and other roadway

improvements. TDOT used design-build to expedite project delivery and streamline design processes.

CWM prefers design-build over public-private partnership (P3) projects. “We are a big family-owned company, but we are not a national mega contractor,” says Grist. “We do not typically pursue P3 projects as prime contractor due to the associated finance, risk, and maintenance aspects.”

Always looking for innovative approaches in concert with GDOT, CWM often looks to precast concrete to help accelerate project schedules in a region where a large percentage of the bridges are concrete. Innovation will

In August 2021, C. W. Matthews Contracting Co. Inc. finished the first phase of the Interstate 75/Interstate 24 interchange modification in Chattanooga, Tenn., on time and on budget. The \$132.6 million design-build project included 11 bridges, 17 retaining walls, and a noise wall.





During the 2018 Courtland Street Bridge project in Atlanta, Ga., replacing the structure in a tight urban environment created numerous constructability challenges. C. W. Matthews Contracting Co. Inc. collaborated with the Georgia Department of Transportation and Michael Baker International to ensure that the project could be executed quickly and with minimal impact to adjacent Georgia State University, which remained in operation during the project.

continue to be important in the future. Using the proceeds from a 2015 gas tax increase, GDOT plans an expansion of the region's network of toll lanes, new highway interchanges, and new bridges on "the Perimeter"—the Interstate 285 loop that encircles Atlanta.



Express Lanes

A priority for GDOT is reducing the impact of construction on both the local community and the traveling public. This goal was evident when CWM replaced the Courtland Street Bridge in downtown Atlanta in 2018. Originally scheduled to take 18 months, the \$21 million project used design-build and accelerated bridge construction (ABC) methods to replace the original 111-year-old bridge over Decatur Street, public transit, and freight rail lines in just over 5 months.

According to Grist, the CWM team used innovative construction methods, all while protecting access through the work zone to Georgia State University buildings. He cited the installation of new foundations beneath the existing bridge before the road was closed as helping to meet the aggressive schedule. (See the Fall 2019 issue of *ASPIRE* for more on the Courtland Street project.)

CWM was also up against the clock for the 2019 Blackhall Road Bridge replacement project in Jonesboro, Ga. CWM used ABC methods to replace the Rum Creek crossing to reduce the project's impact on the local community. To meet the mandate for a less-than-60-day closure, the team turned to decked beam modules composed of prestressed concrete bulb-tee girders with decks cast in laydown yards at the project site. The modules were installed and then connected with ultra-high-performance concrete deck closure joints. (For more on the Blackhall Road Bridge replacement, see the Winter 2021 issue of *ASPIRE*.)

CWM's track record of quick response times, continuous communication, and using innovative technology has set a high bar for future projects. With more concrete bridges planned for the Atlanta network, CWM is poised to make a lasting imprint on the region. 

On the 2019 Blackhall Road Bridge replacement project, casting the bridge deck on prestressed concrete bulb-tee girders at on-site laydown yards helped eliminate shipping-weight limitations and profile management issues and also accelerated the schedule. The first project in Georgia to use this hybrid concept, the bridge was reopened to traffic after only a 60-day closure.



On the 2018 Courtland Street project in Atlanta, Ga., prestressed concrete beams were used to span the Metropolitan Atlanta Rapid Transit Authority and CSX railroad tracks. The replacement structure was built in the same footprint as the old bridge.

Family History

C. W. Matthews Contracting Co. Inc. (CWM) is a family-owned, fourth-generation, heavy civil construction company based in Marietta, Ga. It started 75 years ago as a small grading company with a focus on asphalt and paving and has since expanded from those humble beginnings to include storm drain installation, concrete flatwork, bridges, retaining walls, and project management.

The contracting company has grown along with the region and has made several strategic acquisitions. The 2006 acquisition of APAC's Atlanta, Ga., operations helped CWM enlarge its bridge division. More recently, in May 2021, CWM acquired the Southeast operations of McCarthy Construction, which significantly increased CWM's capacity to produce and install concrete pavement. These acquisitions have greatly expanded the territory in which CWM supplies products and services and entrenched them in heavy civil construction.

Unlike publicly owned companies, the Matthews family leadership allows CWM to be flexible and employee oriented. The family believes the company's people and equipment are its greatest assets. They continue to be 100% invested in the construction industry and their own future.

The business was well positioned to weather the uncertainties of 2020. Thanks to a robust and diverse backlog, CWM continued to thrive during the COVID-19 pandemic and is prepared to build toward the future.