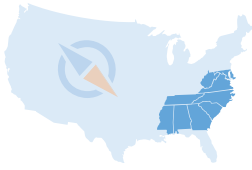




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## Roller-Compacted Concrete Utilized for Brick Yard in Murfreesboro, Tennessee



**1** RCC process underway.



**2** RCC concrete successfully joins existing concrete with proper construction joints.



**3** RCC after several months of usage.

For over a year, Project Manager Andrew Smith of Robert Smith Inc. of Chattanooga, Tennessee had been discussing Roller-Compacted Concrete (RCC) with Alley-Cassetty Brick & Block in Murfreesboro, Tennessee. Alley-Cassetty was looking for a cost-effective solution to replace the pavement in its brick lay down yard and parking lot around sales office. They had originally considered using asphalt but preferred concrete to achieve a longer-lasting solution. Andrew Smith recommended RCC because it offered similar strength as conventional concrete (approximately 4,000 PSI), a quicker turnaround, and 10% lower in cost than asphalt. As a result, Alley-Cassetty contracted with Robert Smith Inc. to install RCC for its pavement project.

The 3,000 square yard project started in late March 2017 with removing approximately 4,000 tons of existing material to achieve 1-1.67% grades. "A grade of 0.75% was needed around the office area in order to address a drainage issue. This typically would not be done in RCC due to the technicality of slope and "cut up" areas but Robert Smith Inc. is not your typical RCC contractor either," said Smith. Robert Smith's team did a large amount of intricate work on the site which showed its true talent as an RCC paving operation.

IMI Ready Mix supplied the RCC material for the project from its central mix plant three exits up from the Alley-Cassetty site. IMI did a fantastic job of handling the production with on-time deliveries as well as maintaining a consistent mix. The project completed on May 7, 2017, but would have been completed weeks earlier had the constant rain not been a factor. In October 2017,

Alley-Cassetty decided to do another 5,000 square yards. Weather wasn't a factor this time so the second phase was finished in under 2 weeks.

"Alley-Cassetty was a great client, because they were patient in working around us while we worked around them too. They are ecstatic to have a solid durable surface for all their trucks and forklifts to run on now," said Smith.

Conveniently located nearby in Murfreesboro is the Concrete Industry Management (CIM) program at Middle Tennessee State University (MTSU). The CIM program is a Bachelor of Science degree program that provides students opportunities to enter a broad field that has an urgent need for skilled professionals. MTSU is the first university to integrate a technical education in concrete with business and communication skills needed to advance in the industry. With over 875 alumni working various jobs within the concrete construction industry, the program has gained in popularity among students as well as the industry as a whole. For every graduating senior, there are close to eight jobs available. Oddly enough, Murfreesboro has had every other type of concrete installed somewhere in the city except for RCC. So when Alley-Cassetty decided to use RCC for its yard and parking lot, it filled that missing link for the CIM program's concrete application site visits.

Several city and local engineers as well as some students from the CIM program were able to visit the project and learn about RCC. Actually seeing this process really puts it into perspective as to how quickly this application can be constructed. Alley-Cassetty was very impressed with RCC and mentioned using it to complete the rest of the yard at a later date.

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