For FedEx, maintaining state-of-the-art facilities is critical in this competitive market. Mobility around their distribution centers depends on a sturdy pavement structure. When the pavement at the FedEx Ground facility near the Charlotte Douglas International Airport began to show high levels of structural distress, FedEx executives turned to Kendale Design/Build General Contractors, LLC of Jacksonville, Florida to come up with a sustainable and durable solution. This facility is too busy for on-going repairs that restrict their daily operations. Coming up with the best solution for the reconstruction of the 72,000 square yards of pavement at this location was a challenge.

Kendale Design/Build Innovates for its Customers
Kendale’s Vice President Kyle Crisp notes their firm prides itself on implementing new technology to better serve its clients. As such, they were intrigued with the concept of Full-Depth Reclamation (FDR) with Cement. With the help of the Southeast Cement Promotion Association’s engineering staff, Kendale determined the Charlotte site was an ideal candidate.

Quality-Centered Paving Team Assembled
In short order, Kendale chose Summit Engineering of Rock Hill, South Carolina to perform a geotechnical investigation of the pavement at the site, develop mix designs for the FDR, and inspect the construction for acceptance. Summit is highly experienced in FDR mix designs, having done hundreds of FDR mix designs for a wide variety of projects in the Carolinas.

Propst Construction Company of Concord, North Carolina was selected by Kendale to perform the FDR work. Propst has extensive FDR experience at distribution centers with minimal disruption to the owners’ operations. This experience was instrumental in their selection. With Propst Construction and Summit Engineering on board, Kendale had an FDR team ideally suited to the project’s needs. A third experienced and quality-oriented team member, Carolina Site, was added to handle the asphalt removal and paving.

Working around Busy Facilities Requires Planning and Flexibility
Kendale’s company motto, “Planned results through professional management,” was evident in the project. The initial project plan started with eighteen different phases. However, it was fully understood that nothing was written in stone and that phasing would change as FedEx operations demanded. Flexibility is paramount in this type of project and FDR was up to the challenge.

Propst Construction’s Grading/Stabilization Division Manager Dan Slone, as well as Project Manager Jason Kuneo, took the lead for FDR operations at the subject site. Slone said, “We at Propst Construction share Kendale’s core commitment to achieving total and complete customer satisfaction. In as much as each of our companies has an extensive background working in this type facility, we understand that small delays for the owners translate to potential big losses. Like Kendale, we understand that is an absolute fact. Therefore, clear communication, staging flexibility, and the willingness to change the scope of work as needed is crucial.”
as necessary to keep traffic moving are imperative to providing the owner with a quality and timely project.”

**Stone Base Allows for Asphalt Removal Prior to FDR**
Just prior to commencing FDR, Carolina Site milled off approximately 4 inches of asphalt. This left approximately 8 inches of stone base, which meshed perfectly with the FDR process. FDR operations started in early May 2019 as Propst moved onto the site and began construction. Cement, provided by Argos USA, was spread at a rate of 60 pounds per square yard as indicated in Summit Engineering’s job mix formula. This was mixed to create a 12-inch base with an unconfined compressive strength between 300 psi and 400 psi after seven days. Also, per the job mix, water was added to bring the moisture to between 100% and 102% of optimum.

**Traffic Temporarily Runs on FDR**
With the completion of the FDR application and grading operation in each stage, Carolina Site would move in following a 24-hour moist cure period and overlay the area with two and a half inches of surface asphalt mix. Extended closure of any area to the flow of traffic could not be tolerated due to the volume of trucks and demands for on-time delivery in this market. However, the FDR base had no trouble accommodating the truck traffic for a day or two until the asphalt could be laid.

**Project Completed Quickly**
The FDR work was accomplished in early August with the completion of cleanup and acceptance in early September. Kendale’s Site Supervisor Cary Whittier said, “Full-Depth Reclamation with Cement allowed us to totally reconstruct this failing pavement, saving valuable time and money while accommodating the demands of this busy shipping industry. I have done other similar jobs in the past using conventional methods for reconstruction where shutdowns were a necessary part of the job. I am very impressed with the FDR process and am glad that I actually saw its benefits on this project. It is definitely something that designers should consider on demanding projects.”

Carolina Site’s President and CEO Craig Gannaway was also very impressed with the FDR process. Gannaway said, “I can see why this process is used on so many sites around the Carolinas. It is a quick and efficient method to utilize the existing materials to create a superior base. It allows the asphalt contractor to quickly overlay the newly created base, increasing our paving production and keeping our customers’ operations moving. We have several customers we are working with now that are considering using FDR in their capital budgets. This job is a fantastic example of the full complement of benefits FDR can deliver. We are big cheerleaders for this process and pitch it to our customers in any job where its application makes sense.”

FedEx never stops trying to improve what it does. Every step of the shipping and delivery process is constantly analyzed in order to improve the way in which people send and receive packages. In choosing the FDR process, they have improved their facilities in a sustainable fashion while saving time and money.

**Let the Southeast Cement Promotion Association Help You**
Whether you are building new pavement or needing to repair an existing one, whether your job is commercial, industrial, a busy freeway, or a quiet residential street, there is a cement-based paving solution that can save you time and money. Visit www.seccement.org to read more about cement solutions and find an expert in your area.