CASE STUDY

KIMBERLIN HEIGHTS BRIDGE PROJECT

GROUND IN STRENGTH
Forterra Drainage Pipe & Products
Your project is functional in record time.

Project Description

ABC...1-2-3
1 Project, 22 Days, 3 Companies:
Infrastructure is the foundation of the economy and today, we as a nation are facing the monumental task of rebuilding this all-important component of society. One of the most vital pieces of infrastructure are bridges. No matter how big or small, when a bridge is closed for reconstruction, the impact to the community is immense and far reaching. Longer commutes, increased traffic loads on alternate routes, longer response times for emergency services, and economic consequences for small businesses, are felt immediately and deeply. It is crucial that closure times are as short as possible but equally important that these projects are safe and cost-effective. ABC (Accelerated Bridge Construction) is an innovative method that makes achieving these goals easier than ever.

Kimberlin Heights Road in Knox County Tennessee provides access to downtown Knoxville for thousands of residents. To meet the increasing needs of the area, major improvements to the road were planned. A key component of the improvement plan was replacing a bridge spanning Gap Creek, which would require a complete closure of Kimberlin Heights Road. Averaging nearly 3800 vehicles a day across the bridge, rerouting traffic would add more than 12 miles to people’s trips and would be extremely disruptive to the community. Minimizing closure time was critical and a 30-day time line was placed on the project. To meet this ambitious time line, Vaughn & Melton Engineers made the decision to use ABC technology and chose Forterra’s Precast Arch Bridge system, including, wing walls, and precast footers, for the project. By using this system, Whaley & Sons, Inc. became well-positioned to complete the project on time and within budget.
Obtaining pre-cast bridge components from a Forterra manufacturing plant meant conditions and quality would be tightly controlled and leaving one less thing to worry about in the field. Additionally, selecting precast for the bridge system allowed for work to be performed both on-site, while Forterra was producing the Arch at a regional plant facility. Essentially, the Forterra team was producing the bridge components, while Whaley & Sons performed the difficult demolition, excavation, and preparation work at the site, including extensive removal of natural rock and other materials.

The use of Forterra’s precast footers was a key to completing the project within the required 30 day contract time. The precast footers reduced a normal 7-9 day casting process, down to just a few hours of setting footers in place. These impressive time savings were seen throughout the installation and the entire precast installation was completed by the talented crew in just 23.5 hours, over a span of two and half days. Furthermore, Whaley & Sons completed the entire project in just 22 days! The total estimated time savings for the ABC project over traditional methods was as much as 120 days. These statistics are a testament to the hard work of Whaley & Sons & their experienced on-site personnel.

This project shows that innovative engineering and construction practices, along with the use of ABC technology can save valuable time and money on bridge projects. More importantly, ABC methods allow for reduced closure times, and mitigate the negative impacts to the local community and small businesses.

The Kimberlin Heights project serves as a great example of Engineers (Vaughn & Melton), Contractors (Whaley & Sons), & Vendors (Forterra Pipe & Precast) working together to effectively and efficiently accomplish infrastructure projects.
Forterra

Forterra is a leading manufacturer of water and drainage pipe & products for a variety of water-related infrastructure applications. Based in Irving, Texas, Forterra is comprised of Drainage Pipe & Products, Water Pipe & Products, Structural & Specialty Products and Stormwater Management Systems. We employ more than 5,500 people and operate more than 100 facilities, with products available throughout the U.S. and Eastern Canada.