



FULL-CIRCLE DESIGN



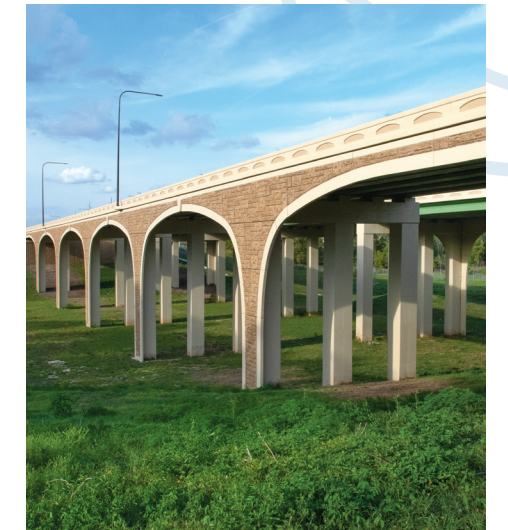
The first Central Florida Expressway Authority section of the Orlando area's new Wekiva Parkway is a source of community pride and a highly effective transportation solution

When it is finished in 2022, the 25-mile Wekiva Parkway will complete the Central Florida Beltway encircling metropolitan Orlando, Florida. The joint project of the Central Florida Expressway Authority (CFX) and the Florida Department of Transportation is the first Central Florida expressway to feature all-electronic tolling.

HNTB designed and prepared the plan for the first segment of the new, four-lane, divided, limited-access roadway. The \$67 million project extends State Road 429 2.3 miles to the north, completing the remaining half of a single-point urban interchange, 12 bridges with associated walls, lighting, signals, signing and pavement marking, ITS, utility coordination and traffic maintenance.

Before design began, HNTB already had completed about half of the larger Parkway's line and grade work.

"Our design proposal for the first segment focused on the fact that HNTB brought knowledge, continuity and efficiency to the project," said John Hornbeck, HNTB project manager. "We already knew all the decisions that preceded and led to the alignment we helped define."



Design defines Parkway aesthetics

During the SR 429 extension planning stage, CFX completed exhaustive stakeholder and community engagement meetings. An overriding theme was that the extension should have a “parkway feel” and should fit in with the area’s rustic and natural surroundings.

“Many stakeholders referenced iconic roadways around the nation when discussing that the Wekiva Parkway should not only be a mobility solution but also should provide an enhanced user experience and be a source of community pride,” said CFX Manager of Engineering Will Hawthorne.

HNTB’s design work, which began in 2012, set the aesthetic standards that defined the entire Parkway’s signature look.

“The project team made a conscious effort to capture a parkway feel by blending design with the rolling terrain and maintaining the area’s rural character,” said Michelle Harrison, HNTB deputy project manager. “Besides including landscaping areas at interchanges, HNTB designed horizontal and vertical bifurcations to take advantage of grade variations. The separated roadway, with the southbound lanes being significantly

higher than the northbound lanes, allowed for landscaping in the medians and provided profiles of differing elevations to give drivers a more scenic view.”

Specially designed haunched bridge beams, with their inherent natural, curved shape, helped achieve the parkway feel. Panel walls along the roadway feature stone relief, created through a textured finish enhanced with multiple layers of hand-applied, variegated eco-staining in deep greens and browns and warm tan. The natural stacked-rock aesthetic also was integrated into bridge piers using form liners, and one pile bridge over a natural depression stands about 60 feet high, with towering arched, stonework façades reminiscent of a Roman aqueduct.

Rather than bridging over an existing local road, a very low water table – rare for Florida – permitted HNTB to take the parkway under the road, where motorists see more vegetation and more of the landscape, Hornbeck said. This approach also required less right-of-way, which minimized impact to local land owners.

Where a bridge needed to be built over an old sinkhole, the design team converted the natural low area into a stormwater retention pond. The decision reduced the number of ponds needed elsewhere in the project and mitigated the need to buy land in that area.

Solving a mobility problem

In the fast-growing Orlando area, the local road network in northwest Orange County and east Lake County – the area of the Wekiva Parkway – was becoming

increasingly congested. Morning backups could stretch a mile or more, with commuters trying to get to SR 429 at the connector road interchange to reach employment centers and other destinations.

“The opening of Wekiva Parkway phase 1 in July 2017, followed by phase 2 in March 2018, provided tremendous relief and travel options to commuters,” Hawthorne said. “The parkway’s all-electronic tolling feature keeps traffic moving. Motorists pay their tolls at safe highway and ramp speeds without having to slow down, change lanes or stop at toll plazas.

“As the first CFX section to get underway with construction – and at a highly visible intersection in Apopka, Central Florida’s second-largest city – the HNTB-designed section shows CFX honoring its commitment to build this long-awaited mobility solution. The result has been an eye-catching facility that has not only dramatically improved mobility but provides a unique and enjoyable user experience and has become a source of community pride.” ■

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