



# Florida Engineering

SOCIETY

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## 2008 Legislative Preview

**Florida Governor  
Charlie Crist**

**Hometown Democracy:**  
Bad for Hometowns, Worse for Democracy

**Legislature Dealing with Florida's  
Water Quality and Infrastructure**

2008 FICE ENGINEERING EXCELLENCE AWARD WINNERS ■ IN THEIR OWN WORDS ■ FLORIDA ENGINEERING POLITICAL ACTION COMMITTEE ■ CENTRAL FLORIDA CHAPTER REACHES 1,000 FIFTH GRADERS ■ 2008 ENGINEERING SCHOLARSHIPS

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envisioned. The design reflects the context of downtown St. Louis, the Cardinals' colorful history, and the best attributes of the most successful ballparks. The creative use of old and new materials, from brick and concrete to exposed steel and glass, makes an architectural statement with a modern sensibility for the 21st century.

### **Bowyer-Singleton & Associates, Orlando** **Kissimmee Park Road Interchange, Osceola County**

The Kissimmee Park Road interchange is an example of how a collaborative effort between three agencies can bring a vision to resolve a transportation need to reality. In 2002, Osceola County and the city of St. Cloud passed resolutions of local support for a proposed interchange on Florida's Turnpike at Kissimmee Park Road. The interchange was viewed as a vital component of an expanded transportation plan and economic development package for St. Cloud and Osceola County. On June 12, 2003, Florida's Turnpike Enterprise (Turnpike) agreed to enter into a joint project agreement with the city and county to design and construct the interchange. The Turnpike committed to have the interchange substantially complete and open to traffic by December 2006, allowing just 42 months for a process that normally takes between 7 and 10 years. Bowyer Singleton was selected by the Turnpike to perform concurrent Project Development and Environment (PD&E) study and final design services. The PD&E study and final design began in August 2003 and all tasks were completed on schedule. The project was awarded to Hewitt Construction in November 2005. The contractor, along with Reynolds Smith and Hills (Construction Engineering and Inspection firm), were able to open the interchange to traffic in less than one year due to the phase design of the project. The ribbon cutting for the interchange was held on January 6, 2007, and the construction was complete in July 2007.



The project contained numerous issues to be addressed for both the study and design including wetlands, floodplains, ERP permitting, geometrics, right-of-way acquisition, and construction phasing. Also required was a Joint Participation agreement between the city of St. Cloud, Osceola County, and the Turnpike Enterprise. Further complicating the project was the ongoing design (and concurrent construction) of improvements to Kissimmee Park Road/Old Canoe Creek Road by Osceola County. Compression of the project schedule was accomplished by taking advantage of final design elements to meet the requirements and documentation necessary for the PD&E study. In order for the design to be complete and construction to begin as scheduled, early identification of requirements and preparation of right-of-way maps, as well as obtaining the necessary permits, were critical. A replacement bridge structure on a shifted alignment was included to facilitate the maintenance of traffic during construction and to allow for a phased opening of the interchange. Many added value elements such as future bridge foundations were added late in the project design due to negotiations with property owners. The project was opened as promised by the Turnpike, and today over 7,500 vehicles a day use the interchange.



### **Culpepper and Terpening Inc., Fort Pierce** **Site Unseen—A Trilogy, City of Port St. Lucie**

The city of Port St. Lucie was cognizant of a growing population and ever expanding wastewater collection and treatment systems. While growth had been clearly identified through master planning efforts, the need for expanding a wastewater treatment in a prestigious residential neighborhood led to innovative means in transferring sewage to regional facilities. The wastewater collection system, like many in Florida, initially started as private package-modular treatment systems that outgrew their abilities as residential growth occurred and land values escalated. The same growth forced the transformation of these residential and commercial plans to sub-regional wastewater treatment facilities. The city realized that consolidation and integration of private wastewater systems into municipally-owned and operated system was inevitable, and environmentally prudent. The public's outcry for the acquisition and consolidation of the private WWTF, highlighted the necessity to transfer sewage from various areas within the city's service territory, over many miles of pipeline to remote regional WWTF sites. These pipelines had to cross state submerged lands, protected waterways; sensitive ecosystems as well as Eagle Nest Protection Zones and the city spearheaded the project and obtained the assistance of a consultant that could meet the protection commitments.



Culpepper and Terpening designed, permitted and coordinated the installation of a regional sewer transmission main and reclaimed water main to allow for decommissioning of a sub-regional wastewater plant and consolidate the collection system. The project included multiple horizontal directional bores under the St. Lucie River for a crossing distance of approximately 4,280 lineal feet (0.8 miles +/-). The pipelines consisted of 30-inch force main, 24-inch reuse main and 4-inch conduits. The largest bore diameter was in excess of 54-inches. The permitting efforts included the Army Corps of Engineers, US Department of the Interior, US Fish and Wildlife, Florida Department of Environmental Protection, South Florida Water Management District, and the FDOT.



This project overcame major geographical and political obstacles allowing for the Decommissioning of a Wastewater Treatment Plant and for the recovery of the associated land for future development in an upscale residential community.