

Concrete Segmental Bridge Solution Saves Money – 51H Monongahela River Bridge, Brownsville, Pennsylvania

The new Monongahela River Bridge (**Fig. 1**) near Brownsville, Pennsylvania is now under construction and scheduled to be completed in the fall of 2011. The bridge features long, arching spans and tall, slender piers to create a concrete segmental bridge to carry 4 lanes of traffic.

The 3,200' long bridge consists of seven spans, including a main span of 518', built in balanced cantilever construction (**Fig. 2**) to cross the river, two active rail lines, and local roads. C-shaped piers rise over 200 ft above the mountainous terrain and support the dual-cell box girder superstructure. **FIGG** worked with **Walsh Construction** to provide a Contractor Alternate design that resulted in a savings of \$8.6 million for the Pennsylvania Turnpike Commission.

Owner: Pennsylvania Turnpike Commission

Owner's Engineer: Gannett Fleming and **Finley Engineering Group**

Designer: **FIGG**

Alternate Design Team: **Walsh Construction / FIGG**

Contractor: **Walsh Construction**

Construction Engineering Services: **FIGG**

Construction Engineering Inspection: SAI Consulting Engineers and **Finley Engineering Group**

Formwork for Piers and Cast-in-Place Segments: **EFCO Corp.**

Form Travelers for Cast-in-Place Segments: **Schwager Davis, Inc.**

Post-Tensioning Materials: **Schwager Davis, Inc.**

Bearings and Expansion Joints: Joints – **Watson Bowman Acme - A BASF Company**
Bearings – **The D.S. Brown Company**

Epoxy Supplier and Prepackaged Grout: **Sika Corporation**

Figure 1 – The Pennsylvania Turnpike Monongahela River Bridge is being built in balanced cantilever construction to cross the river, rail lines and local roads. (Rendering Courtesy of FIGG)



Figure 2 – October 2010 – Long cantilevers of the 51H Monongahela River Bridge are beginning to take shape as construction progresses on the Pennsylvania Turnpike Commission's newest segmental bridge. (Photo Courtesy of FIGG)

