The new I-35W Bridge is an emergency replacement structure for the crossing that tragically collapsed on August 1, 2007. The new bridge over the Mississippi River in Minneapolis, Minnesota made front-page news across the world as it was designed and built with record speed. The new bridge was completed just 13 months after the collapse of the original structure, more than three months ahead of schedule, and within budget. In spite of the challenges surrounding the project and fast-track schedule, the CSS philosophy and principles were applied to create a new, safe and innovative bridge that is embraced by its community. The project incorporates all of the 15 original Principles that guide CSS in transportation.

Within days after the bridge collapse, the Minnesota Department of Transportation (Mn/DOT) began the process of rebuilding this vital area and interstate transportation link across the Mississippi River in downtown Minneapolis and began scheduling and facilitating public open house meetings. To expedite project delivery, Mn/DOT chose the design-build approach, but still structured the proposal documents and scoring to emphasize the importance for a CSS approach with particular emphasis on public involvement and visual quality management. Mn/DOT assembled a Visual Quality Advisory Team (VQAT) to meet as needed to address visual quality and CSS items throughout the project. Together, the selected design-build team and VQAT planned a full-day public involvement meeting called a FIGG Bridge Design Charette™. Eighty-eight local community members met, using a systematic, highly visual and interactive process, to develop consensus and provide their preferences for a variety of aesthetic elements. The charette participants chose the pier shape for the bridge, open railing, bridge color (white), aesthetic lighting options, and local stone retaining walls and abutments. Aesthetic choices were guided by a theme of Arches-Water-Reflection to create a bridge that is in harmony with its site along the river with a mixture of historic and modern architecture.
The new bridge carries ten lanes of interstate traffic across the Mississippi River on twin structures. New ramps were constructed at the interchanges to correct geometric deficiencies and create a safer structure. Engineers developed creative solutions to minimize impacts to the project site, accounting for constraints such as sensitive removal and investigation operations, industrial site contamination, presence of historic properties and National Park Service Land, existing railroad tracks and utilities, and limited right of way adjacent to the bridge and approaches. More than 320 sensors were embedded in the bridge to monitor the behavior of the structure in real time, and to alert officials to any changes in behavior before a problem develops. The FHWA and University of Minnesota will monitor this data over the life of the bridge to provide important information for the future of bridges.

The community involvement program also included extensive communication, outreach and education efforts to help restore confidence. Each Saturday morning, a member of the project team led “Sidewalk Talks” to share information with the community about construction progress and to provide a birds’ eye view of construction. Eighteen hundred students participated in “Casting the Future,” an educational program designed to teach students about construction and the importance of sustainability. Students also created a glass mosaic tile with recycled glass that was installed as part of the bridge project.

Looking forward, the new I-35W Bridge was designed to be flexible to accommodate the changing transportation demands over its 100 year life. The bridge is transit ready with expansion space for light rail, bus or HOV lanes. It is also designed for the load of a future pedestrian bridge to be suspended from the underside of the new bridge connecting future and existing trails on either side of the river.

For more information:
Scott Bradley, FASLA Mn/DOT, Director of Context Sensitive Solutions Scott.Bradley@state.mn.us
Jon Chiglo Mn/DOT, Stimulus Manager Jon.Chiglo@state.mn.us
Linda Figg FIGG, President/CEO/Director of Bridge Art lfigg@figgbridge.com