Building Better Bridges

For Paul Giroux (BSConE ’79), a senior project engineer at Kiewit, building bridges isn’t just a job—it’s his passion.

Recently, Giroux’s passion led to his role as the Chairman for the American Society of Civil Engineers’ Metropolitan Section’s participation in the 125th birthday celebration of the Brooklyn Bridge in New York City. Giroux was the featured speaker for the three-day event on May 23, 24, and 25, 2008 and delivered a one-hour presentation on the construction of the Brooklyn Bridge. Deborah Schwartz, President of the Brooklyn Historical Society called the presentation, “absolutely magnificent”, adding that Giroux “had everyone on the edge of their seats!”

Giroux commented, “The Brooklyn Bridge is one of the most remarkable bridges ever built, one of the greatest bridge building stories in history, and there are still many relevant lessons to be learned from it and its builders, John, Washington, and Emily Roebling.”

One of the key lessons of the Brooklyn Bridge is the importance for modern bridge builders to be “master builders”. Giroux says, “In order to build truly great bridges, builders must properly balance the science of design, the art of shape and form, and the practice of constructability. With the design of the Brooklyn Bridge, the Roebling’s wonderfully balanced form and function and its design is a great example of a ‘sustainable’ bridge design; that is, a bridge design that is not only able to meet the needs of society in the time when it was constructed, but also a design that does not compromise the ability of future generations to meet their own needs.”

Giroux continues, “Achieving a sustainable bridge design requires the consideration of many factors such as safety, durability, efficiency, shape and form, environmental and ecosystem awareness, site selection, material selection, conservation of resources, quality and workmanship.” Now approaching 30 years of service with the Kiewit Companies, Giroux has worked on a wide variety of large, complex heavy civil engineering projects throughout the United States. Some of the most challenging and rewarding projects have been his work on so-called “signature bridges”.

Giroux’s interest in building better bridges led the writing of his paper entitled, “Building Better Bridges” which was published on the Engineering News Record’s web site in Fall 2007, and has taken him around the country to talk to college students and others.