



**NEWS RELEASE**  
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**G2 develops method to keep massive concrete piers in Illinois River from cracking while curing**

**Troy, Mich./Nov. 10, 2010** – G2 Consulting Group of Wheeling, Ill., recently prepared and supervised the implementation of a mass concrete temperature control plan for eight large drilled concrete piers for a new Canadian National railroad bridge in Grundy County, Ill.

G2's plan kept the concrete within 10-foot 4-inch diameter piers within specified temperature ranges during curing. Mass concrete placements like this are challenging, because the outer edges can cure faster than the center and lead to cracks. In this instance, the piers on the bridge's south side were located in the river, where cool river temperatures made it even more challenging to maintain a sufficiently consistent temperature.

G2's engineers used sophisticated software and computer simulations to determine the best concrete mix, proper conditions for placing the concrete, and, for the piers in the river water, recommended insulating the upper portions and a cooling system for the centers.

G2 installed concrete temperature/maturity loggers manufactured by Engius on the drilled pier reinforcing cages to monitor the concrete temperature at the outer edge and center of the piers during curing. The loggers were set up to take temperature readings every hour and the information was downloaded and data analyzed. G2 was also on site during the concrete placement operations to check fresh concrete temperatures as it was delivered to the site.

The new CN railroad bridge is being built in conjunction with alterations to the Elgin Joliet and Eastern Railway line and replaces an existing railroad bridge deemed "obstructive to navigation" by the U.S. Coast Guard under provisions of the Truman-Hobbs Act.

G2 Consulting Group ([www.g2consultinggroup.com](http://www.g2consultinggroup.com) and [twitter.com/g2\\_consulting](https://twitter.com/g2_consulting)) is a full-service engineering firm providing geotechnical, environmental and construction engineering services to Fortune 500 companies, major utilities, property owners, government agencies and leading architectural, engineering and construction firms across the United States. Based in Troy, Mich., G2 also has offices in Brighton, Mich., and suburban Chicago, Ill.

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