

## CONCRETE CONNECTIONS

*Concrete Connections* is an annotated list of websites where information is available about concrete bridges. Links and other information are provided at [www.aspirebridge.org](http://www.aspirebridge.org).

### IN THIS ISSUE

<http://www.nap.edu/download/24689>

This is a link to download a PDF of *Control of Concrete Cracking in Bridges*, a synthesis report recently published by the National Cooperative Highway Research Program (NCHRP), and referenced in the Safety and Serviceability article on best practices to reduce cracking in bridge decks.

<http://www.earthcam.net/projects/bayonnebridge/?cam=pano>

This is a link to a panoramic view of the Bayonne Bridge project that shows the difference in elevations of the old and new approaches. The Bayonne Bridge is featured in both a Project article on page 20 and a Concrete Bridge Technology article on page 28.

<http://www.gcpci.org/index.cfm/technical/pcef>

This is a link to the website of the Precast Concrete Economical Fabrication (PCEF) Committee that has information on materials, cross sections, and projects using PCEF bridge elements. PCEF elements are mentioned in the article on page 6 featuring STV.

<http://www.enr.com/articles/12218-yadkin-river-bridge-project-delivers-timely-replacement-of-aging-structure>

This is a link to an online article about the Yadkin River Bridge that appeared in *ENR*. The bridge was designed by STV, the engineering firm featured in an article on page 6.

<http://www.aspiremagazinebyengineers.com/i/306966-winter-2008/43>

This is a direct link to the *ASPIRE*<sup>SM</sup> Winter 2008 article "Precast Enables Environmental Avoidance," that inspired the solution to the site challenges of the El Salto Falls Street Bridge that is featured in the Project article on page 16.

<http://www.aspiremagazinebyengineers.com/i/768999-winter-2017/13>

This is a direct link to "Long Key Bridge Pier Replacement," that appeared in a Project article of the *ASPIRE* Winter 2017 issue. Details of the V-pier replacement are in the Concrete Bridge Preservation article on page 50.

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M23-50/BDM.pdf>

This is a direct link a pdf of the Washington DOT *Bridge Design Manual (LRFD)* which contains a chapter solely dedicated to accelerated bridge construction methods, techniques, and design details. This document is featured in a Construction Bridge Technology article on page 32.

[http://www.pci.org/uploadedFiles/Siteroot/Publications/PCI\\_Journal/2012/DOI\\_Articles/JL-Fall-2012-8.pdf](http://www.pci.org/uploadedFiles/Siteroot/Publications/PCI_Journal/2012/DOI_Articles/JL-Fall-2012-8.pdf)

This is a direct link to the Fall 2012 *PCI Journal* article "Accelerated bridge construction in Washington State," which describes the development and implementation of the precast concrete bent system that appears in the Construction Bridge Technology article on page 32.

<https://www.nap.edu/catalog/22971/blast-resistant-highway-bridges-design-and-detailing-guidelines>

This is a link to the NCHRP Report 645 *Blast-Resistant Highway Bridges: Design and Detailing Guidelines*. Guidance on the design

of bridge elements and materials to lessen probable damage from terrorist attacks is the topic of the FHWA article on page 48.

<http://www.startribune.com/franklin-avenue-bridge-makeover-and-detours-expected-to-end-by-labor-day-weekend/378903411/#>

This is a link to an article that appeared in the Minneapolis StarTribune describing the importance of the Franklin Avenue bridge renovation to the local neighborhood and the accelerated construction methods used. The Franklin Avenue bridge is featured in a Project article on page 24.

### OTHER INFORMATION

<http://www.astmnewsroom.org/default.aspx?pageid=4250>

This is a link to information on the revision of ASTM A416/A416M, *Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete*.

<http://nap.edu/24779>

This is a link to the recently published NCHRP Research Report 848: *Inspection Guidelines for Bridge Post-Tensioning and Stay Cable Systems Using NDE Methods*. The report describes nondestructive evaluation methods for assessing the condition, including corrosion, section loss, breakage, grout conditions, voids, and water infiltration, of in-service post-tensioning and stay cable systems.

[https://bookstore.transportation.org/collection\\_detail.aspx?ID=149](https://bookstore.transportation.org/collection_detail.aspx?ID=149)

This is a link to the table of contents and information on ordering and updates for the publication *Standard Specifications for Transportation Materials and Methods of Sampling and Testing, and AASHTO Provisional Standards*. This is now a web-based publication and no longer available as a printed book.

<http://www.trb.org/Main/Blurbs/175864.aspx>

This is a link to the final report for NCHRP Innovations Deserving Exploratory Analysis (IDEA) Project 174, *Enhanced Performance Zinc Coating for Steel in Concrete*. A reinforcing bar with a thermal zinc-diffusion coating was evaluated for corrosion protection.

<http://www.dot.state.mn.us/research/TS/2017/201701TS.pdf>

This is a link to a technical summary released by the Minnesota Department of Transportation on a system that analyzes accelerometer data from sensors on the I-35W St Anthony Falls Bridge. The data shows how the concrete structure bends and deforms in response to traffic loads, wind, and temperature changes.

<http://www.register.extension.iastate.edu/uahpc2016/attendance/interactives>

This is a link to the Interactive Panel Final Reports issued from the First International Interactive Symposium on Ultra-High-Performance Concrete, held in 2016. The next symposium will be held in 2019 in Albany, New York.