

*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

<https://www.dot.nd.gov/conferences/construction/presentations/2021/CPD-Week-5-March-31/US%2085%20and%20Long%20X%20Bridge%202021%20CPD%20Bridge%20Design.pdf>

The Project article on page 26 features the new Long X Bridge on U.S. Highway 85, which crosses the Little Missouri River in North Dakota. A North Dakota Department of Transportation detailed presentation on the project is available at this link.

<https://doi.org/10.17226/26172>

This is a link to National Cooperative Highway Research Program (NCHRP) Synthesis 562, *Repair and Maintenance of Post-Tensioned Concrete Bridges*, which is the subject of the Concrete Bridge Preservation article on page 38.

[http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_syn\\_562Answers.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_562Answers.pdf)

The Concrete Bridge Preservation article on page 38 summarizes the results of NCHRP Synthesis 562. As part of the study, state departments of transportation were surveyed about the design, construction, maintenance, and repair of post-tensioned bridge structures. This is a link to the 45 responses to the survey.

[https://abc-utc.fiu.edu/wp-content/uploads/sites/52/2017/05/Virginia-Micro-Abutment\\_05-16-2017.pdf](https://abc-utc.fiu.edu/wp-content/uploads/sites/52/2017/05/Virginia-Micro-Abutment_05-16-2017.pdf)

The "Virginia abutment" is described in the Project article on page 30 featuring the Atkinson Boulevard Bridge over CSX Transportation railroad and Interstate 64 in Newport News, Va. This system allows for contraction and expansion and is self-cleaning. A document about the Virginia abutment can be downloaded via this link.

<https://www.iso.org/standard/62085.html>

The Perspective article on page 63 describes an engineering firm's approach to improving its quality assurance and quality control processes, which included the decision to pursue ISO 9001 quality management system certification. This is a link to the abstract and description of the ISO 9001 standard.

<https://abc-utc.fiu.edu/webinars/research-seminars>

In the State article on page 52, the innovative use of ultra-high-performance concrete (UHPC) is mentioned. A recording of the July 30, 2021, webinar "Behavior and Strength of UHPC in Shear," produced by the Accelerated Bridge Construction Center at Florida International University, is available on this webpage.

<https://www.asbi-assoc.org/index.cfm/events/MonthlyWebinars>

The Concrete Bridge Technology article on page 42 discusses standardizing details for segmental concrete box-girder bridges. This link provides access to American Segmental Bridge Institute webinars such as "Detailing Segmental Concrete Box Girders for Constructability" and "Load Resistance Factor Rating of Concrete Segmental Bridges."

[https://www.fhwa.dot.gov/environment/sustainability/resilience/publications/gbp\\_june\\_2017/index.cfm](https://www.fhwa.dot.gov/environment/sustainability/resilience/publications/gbp_june_2017/index.cfm)

This is a link to the report "Transportation Infrastructure Resiliency: A Review of Practices in Denmark, the

Netherlands, and Norway" (FHWA-HEP-17-077), which is the basis of the FHWA article on page 58.

<https://www.10thavebridge.com/construction-updates>

This is a link to a Construction Updates webpage for the Tenth Avenue Bridge rehabilitation project in Minneapolis, Minn., which is the subject of the Creative Concrete Construction article on page 46. Project update presentations and videos are available in which the suspended platforms described in the article are visible.

[http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07\(307\)\\_AppendixA-GUIDE.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(307)_AppendixA-GUIDE.pdf)

The Perspective article on page 20 presents Washington State Department of Transportation's policies and criteria for repairing or replacing prestressed concrete girders damaged while in service. Other resources for the evaluation and repair of damaged girders include "Guide to Recommended Practice for the Repair of Impact-Damaged Prestressed Concrete Bridge Girders," published as part of NCHRP Project 20-07. The guide is available for downloading via this link.

[http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07\(307\)\\_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(307)_FR.pdf)

This is the link to the final report for NCHRP Project 20-07, "Updated Research for Collision Damage and Repair of Prestressed Concrete Beams," which is relevant to the topics discussed in the Perspective article on page 20.

## OTHER INFORMATION

<http://onlinepubs.trb.org/Onlinepubs/nchrp/docs/SCAN19-01rev3.pdf>

NCHRP Project 20-68D, the U.S. Domestic Scan program, is intended to facilitate innovation among transportation agencies by face-to-face interaction. Domestic Scan 19-01 brought together representatives from 12 state agencies to share lessons learned in bridge design, construction, and maintenance. This link accesses the Scan 19-01 report, "Leading Practices for Detailing Bridge Ends and Approach Pavements to Limit Distress and Deterioration."

## EDITOR'S NOTE

*A slight correction to the article about the John F. Kennedy Memorial Causeway Bridge in the Summer 2021 issue of ASPIRE® (page 20) is in order. The bridge was the third precast concrete segmental bridge built in the United States. In addition to the scale model constructed and tested at the University of Texas at Austin, it was preceded by construction of a one-tenth-scale model of the proposed "Three Sisters Bridge" across the Potomac River between Washington, D.C., and Virginia, which was built in the Portland Cement Association's Structural Laboratory in 1970 and 1971. Details of that project are described in a PCI Journal article available at <https://doi.org/10.15554/pcij.11011971.70.84>.*