



CEAO ~~LIVE~~ **VIRTUAL**

Presents

Ohio Bridge Conference & Trade Show **2020**

ONLINE

Tentative Agenda

Day 1 - Wednesday, August 12, 2020

12:00pm–12:50pm **Welcome / Kick Off**
Scott Coleman, PE, PS, Logan County Engineer, CEAO Bridge Committee Co-Chair
Warren Schlatter, PE, PS, Defiance County Engineer, CEAO Bridge Committee Co-Chair

Opening Session

Emergency Design-Build PCBB Bridge Rehabilitation*

Robert Hochevar, PE, Summit County Bridge Engineer
Mike Garver, Project Manager, The Ruhlin Company
Paul Wischt, PE, SE, Senior Bridge Engineer, Osborn Engineering

After discovering widespread section loss on the exterior beams of this 48-foot long prestressed concrete box beam bridge, the Summit County Engineer immediately closed the structure to assess the extent of deterioration and determine the necessary repairs to safely re-open it to traffic. The non-composite box beams with asphalt overlay were constructed in 1977 and placed on modified 1922/1914 abutments. The bridge carries 4,600 vpd on Cleveland-Massillon Road (CH 17) over the Barberton Reservoir.

The bridge needed to be back in service as quickly as possible since Cleveland Massillon Road provides a vital link in the transportation network used by the residents and business in the surrounding communities. As such, the project was designated as an emergency to allow the County Engineer to expedite completion using the necessary engineering and construction means deemed appropriate. Only with excellent collaboration among all entities and accelerating the process was re-opening the bridge to traffic within five months a reality.

The bridge was rehabilitated by placing new composite prestressed concrete box beams on the existing abutments once again modified for

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reuse. This presentation includes all elements of this \$390,000 Emergency Design-Build Project from the perspective of the owner, contractor and designer. Unique facets discussed include the expedited schedule, determination of the best solution, and consideration of the drinking water reservoir. Other topics discussed include an abbreviated structure type study, funding considerations and constructability issues.

1:00pm-1:45pm

Seneca County Force Account 2-Span Box Beam*
Mark Zimmerman, PE, PS, Seneca County Engineer

For nearly 12 years, Seneca County has been building Concrete Box Beams and precast 'Lego' Blocks for Substructures and Superstructures. After replacement for nearly 30 of these structures, we have run short on places to use them. This year our team decided to explore the possibility of utilizing the same idea for longer two span bridges that will open a new set of bridges that we can replace under Force Account. This is a review of our first project.

1:45pm – 2:00pm

Break

2:00pm-2:30pm

Staddens Bridge Road Structure Emergency Replacement*
Jared Knerr, PE, PS, Licking County Engineer
Daniel Kent, Jr, PE, Senior Structural Engineer/Bridge Practice Inspection Lead, Gannett Fleming Engineers and Architects, P.C.

The Staddens Bridge structure over the Licking River was damaged in May 2018. A debris pile damaged one of the pier piles and pushed it downstream against the adjacent piles. The pier could not be repaired and the bridge was permanently closed until a new bridge could be constructed. The geotechnical exploration, hydraulic analysis, environmental and waterway permit investigations, roadway and bridge plans were completed in 60 days. The new 3-span bridge is 277 ft. long with continuous, galvanized steel beams and a composite concrete deck on integral abutments and concrete wall piers. The deep foundations were designed to resist extreme event scour. The 28'-wide bridge is on a tangent alignment between reverse horizontal curves with constant superelevation transition. The galvanized beams provide maintenance-free longevity. The existing bridge was removed and new bridge constructed in 9 months, despite the site flooding several times. The Armstrong team was able to overcome these challenges by constructing a partial causeway and put their best team to work for Licking County. The accelerated schedule minimized the inconvenience to the public taking the long detour. The public gained a new boat launch next to the bridge, as part of project improvements.

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2:35pm-3:20pm

**The Rehabilitation of two Filled Concrete Arch Bridges: CUY SR 014
06.20/06.70 ODOT District 12, Cuyahoga County, Ohio***

Hamid V. Homae, PE, Project Principal, KS Associates, Inc.

The two structures are single-span filled concrete arch bridges, approximately one-half mile apart, carrying four lanes of Broadway Avenue (SR 14) over Mill Creek in the Garfield Park Reservation, Garfield Heights, Ohio. The bridges were constructed in 1917 and were widened to accommodate sidewalks in 1934. The bridges are within an environmentally sensitive park setting within the Mill Creek floodplain. KS Associates performed an inspection, structural evaluation, alternative analysis, environmental studies, and hydraulic and scour analysis to develop a program to partially replace the bridges while saving the arches and abutments. This major rehabilitation alternative was selected by ODOT District 12 and was presented at a public meeting. The rehabilitated structures included total replacement of fill, drainage system, waterproofing, sidewalks, concrete railings, spandrel walls, and fascia portions of the arches. As part of the environmentally sensitive, park setting surroundings, a context-sensitive design included ornamental parapets with stone fascias. KS created a 3D model to evaluate the stability of the arches under construction loading conditions to stage construction and maintain traffic. The rehabilitation included improvements to the approach roadways, replacement of major utilities, and attaching utilities to the underside of the new flanking sidewalks. Construction will be complete in November 2020.

3:30pm-4:20pm

**County Update on AASHTOware, BrR update, AssetWise and Load Ratings –
Where We Are and Where We’re Going***

Tim Keller, PE, Administrator, ODOT Office of Structural Engineering

Day 2 - Thursday, August 13, 2020

8:00am-8:50am

Breakfast Key Note

**Planning, Design, and Construction of the Keowee Street Bridge over the
Great Miami River***

Paul Gruner, PE, PS, Montgomery County Engineer

The Keowee Street Bridge was the last concrete spandrel filled arch bridge in the City of Dayton. It had a sufficiency rating of 47.4 and a GA Rating of 4. A feasibility study determined that rehabilitation was not feasible. Funding included LBR, STP, and OPWC. Two public meetings sought input regarding four potential aesthetic concepts, railing design, and color. Necessary coordination included two neighborhood associations and the Greater Dayton Rowing Association. A historic display regarding Dayton’s concrete spandrel filled arch bridges was included in the construction of Dayton’s Webster Street bridge and satisfied the requirements for Webster Street,

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Helena Street, and Keowee Street. Detours were required for roadway traffic, trails traffic, rowing traffic, and canoe traffic.

The new bridge: Prestressed concrete I-beam structure 515' long; 5-11' traffic lanes and two 10' sidewalks with overlooks; Two center spans allow 2 racing skulls to pass through side by side; Low bid Eagle Bridge, October, 2017, \$8,767,305. **Construction issues:** Gas line and a 16" water line bored under the river - both had difficulties. Huge boulders or concrete required multiple attempts causing several weeks of delay, but the completion was on schedule - early September, 2019. Fit up of metal bridge railings was difficult.

9:00am-9:50am

Restoration and Rehabilitation of Historic Bridges*

Daniel Kurdziel, PE, VS Engineering

James Barker, PE, VS Engineering

Historic bridges are an important part of state and national transportation system heritage. When restored, these bridges preserve the engineering of our past, provide destination for history seekers, and can provide iconic community recognition. This presentation will include project profiles of wooden covered bridges, steel truss bridges, collapsed steel trusses and unique award-winning designs. VS will show what was done in each case, challenges observed and how these challenges were overcome. From aesthetic treatments to splicing and retrofitting structural members, every detail is significant on projects that will be prominent to the communities they serve. One highlighted bridge will be the Cedar Ford Covered Bridge in Monroe County, IN. Cedar Ford Covered Bridge was the first covered bridge constructed in Monroe County, IN in over 100 years. This project has been awarded the 2020 ACEC's Engineering Excellence Merit Award and Qualification Based Selection Award.

10:00am-10:20am

Statewide Historic Bridge Preservation Awards

Tom Barrett, Historic Bridge Program Manager and State Byways Coordinator, ODOT Office of Environmental Services

Awards Committee:

Mary Rody, Architecture Transportation Reviews Manager, State Historic Preservation Office

Diana Welling, Department Head, Resource Protection & Review, State Historic Preservation

Erica Schneider, Assistant Administrator, ODOT's Office of Environmental Services

Susan Gasbarro, Team Leader, Cultural Resources, Office of Environmental Services, ODOT

Monica Bruns, Staff Historian Office of Environmental Services, ODOT

Heidi Harendza, Staff Historian, Office of Environmental Services, ODOT

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The Ohio Department of Transportation, FHWA, and the State Historic Preservation Office will present the annual Historic Bridge Preservation Awards. The agencies will honor recent efforts that rehabilitate historic bridges, keep historic structures in service, or reuse and preserve them at a new location. Context-sensitive bridge designs and sustainable practices which incorporate aesthetic elements and components of older bridge types are also eligible for the award.

The Historic Bridge Awards are part of the *Section 106 Programmatic Agreement* which streamlines the environmental process for all types of common federal transportation projects. It also incorporates identification, and protection of historically significant resources, including the preservation of historic bridges.

10:20am-10:50am ODOT's Online Bidding Initiative with the Local Government Agencies*
Tina Collins, MBA, MPM, Special Projects, ODOT Office of Contracts
Stephanie Ann Goff, PE, PS, Greene County Engineer
Contractor

In March 2020, ODOT teamed with Infotech, Inc. to encourage LPA's to use online bidding using the Bidexpress.com system. It is ODOT's interest to collect bid data at the time of bid and by using online bidding, ODOT is able to do that. ODOT developed standard templates for LPA's to use for State and Federal projects to simplify and standardize the process. ODOT has been accepting online bids from contractors for over 15 years. A quick overview of the system will be presented along with the current status of the initiative and plans for the future.

11:00am-11:50am "Ask the Experts" Panel: Structures*
Moderator: Warren Schlatter, PE, PS, Defiance County Engineer, CEO
Bridge Committee Co-Chair
Panelists:
David Geckle, PE, District Bridge Engineer, ODOT District 2
County Engineers

Wrap Up / Adjourn
Scott Coleman, PE, PS, Logan County Engineer, CEO Bridge Committee
Co-Chair
Warren Schlatter, PE, PS, Defiance County Engineer, CEO Bridge
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