It is hard to believe it has been a little over a year ago today, when the large off-road water tanker, being transported on a low-boy trailer, hit and damaged the interstate ramp bridge in downtown Nashville. Many of us probably remember that day very well.

It was a long overdue, sunny day that Friday in April in Nashville. It had been another wet spring and it was shaping up to be the best days of the spring season. Downtown was especially busy, as the Music City Marathon was slated for Saturday morning and 30,000 participants were making their way into town. That was until 11:56 AM when the call went out that the truck had hit the bridge. The load was 100 miles off the permitted route and should not have been in Middle Tennessee.

TDOT HELP
Trucks were on-site in minutes to clear and divert traffic around the incident. Senior Management was notified of the incident and were on-site by 12:30 PM evaluating the situation.

As the lead structural engineer on site, I needed to make an assessment as to what needed to happen to get traffic moving. As I walked up to the bridge, I was stunned by the amount of damage sustained by the bridge. The truck ripped the exterior beam in half and tore the web from the flange. I have never seen damage to this extent. The slab was intact and the bridge rail was acting as a beam to support the dead load.

Our recommendations were to remove the damaged section of beam and brace the remaining beam sections from the ground with shoring towers. This would allow us to maintain two lanes of I-65 traffic under the bridge. Additionally, since only the exterior beam was damaged, we would be able to shift traffic lanes to the outside shoulder and maintain two lanes of I-40 traffic on the bridge.

Fortunately for the Department, a contractor was working on an adjacent bridge and was able to be engaged to complete the emergency stabilization and repairs. The contractor was on-site by 2:00 PM and immediately began to mobilize crews and equipment to the site. Crews began grinding, restriping the lanes, and placing barrier rail on the bridge the process of installing the shoring towers on both sides of the ramp roadway. The lane reconfiguration was completed at 10:30 PM and the shoring tower work was completed at 2:30 AM Saturday morning.

With the towers installed, work could begin to cut the damaged beam section and free the oversized load. This work was completed and the truck was freed and removed by 4:00 AM. The remaining work included removing loose concrete from the bridge and cleaning up the ramp travel lanes. I-40 traffic was opened at 4:00 AM and I-65 traffic opened at 6:00 AM.

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MARK YOUR CALENDAR FOR THE 2019 ENGINEERS CONFERENCE

The 2019 Tennessee Engineers’ Conference, September 15-17, at the Franklin Marriott Cool Springs.

Don’t miss this opportunity to network within your industry while earning up to 12 professional development hours! Sponsorship and exhibitor opportunities are available. Stay tuned as more information is coming soon!

Q&A WITH TWO LEADERSHIP PE PARTICIPANTS

The fifth class of ACEC Tennessee Leadership PE is currently underway! We talked with two current participants, Lee Bogle, TDOT, Safety Engineer for the Occupational Health & Safety Division, and Angela Jones, Environmental Engineer, TDEC, about their experience in the program.

1) For someone who doesn’t know about Leadership PE, how would you describe it?
L - I would describe Leadership PE as an incredible opportunity to learn and participate in training, networking and interacting with industry leaders.
A - The (Leadership PE) program covers a broad set of leadership skills, fosters relationships within the group and exposes the participants to leaders in the engineering field.

2) What types of opportunities have you been a part of in this class so far?
L - We have had opportunities to tour and see major projects such as the Chickamauga Lock construction project. We also visited and toured the TBI facility and labs which is a notable facility with dedicated people who manage enormous caseloads for our State. The firearms and scenario simulators were also very impressive and several of us were allowed to participate in the same training exercises that officers utilize to develop skills and techniques to address various situations.
A - This program has included the opportunity to interact with and learn from engineering firm CEOs and government leaders. They shared their experiences and knowledge as well as took the time to talk one on one with the engineers in the group. A tour of the State Capitol included introductions to and meetings with legislators and lobbyists providing insight into their affect on the engineering community.

3) How has an engineering-focused leadership program been beneficial versus a broad leadership development program?
L - Much like broad leadership, the techniques can be utilized to make us better leaders, but when you see it actively working in our industry and you’re shown “how” or what steps to take, then we are becoming a part of something unique and special.
A - While good leadership skills can be applied to any work environment, this program uses engineering vernacular and case studies specific to our industry which enables a more immediate implementation. There is a benefit of creating relationships with like-minded peers as well as being exposed to leaders in our field.

4) How can you use what you are learning now for the future?
L - The most important element I have learned is that it is all about people. We are charged as leaders to take care of people and meet their needs both personally and professionally.
A - I have already been able to implement presentation skills and utilize the understanding of how other personality types behave under different conditions. These skills will continue to develop and be passed on to those in my organization.

5) How has an engineering-focused leadership program been beneficial versus a broad leadership development program?
THE 2018 EMERGENCY BRIDGE CLOSURE CONT.

The bridge had an unusual design that spliced the beam over the bents. This worked to TDOT’s advantage as we would be able to replace the beam between the splices. The original shop drawings were located and provided to the Contractor. A nearby steel fabrication company reached out to offer assistance in fast-tracking the fabrication of the replacement beam. Work to demo the existing deck and bridge rail would be completed during a weekend closure and installation of the new beam would be completed during a second weekend closure. Other work items could be completed with traffic unimpeded. The final stages of the repairs, included asphalt paving, striping, and painting were completed with the adjoining project to minimize impacts to the public later that summer.

The opening of the two interstates in less than 18 hours would not have been possible without the close coordination of TDOT Region 3, Headquarters staff, and the diligent work of the contractor’s crews. TDOT HELP staff, Region 3 Operations staff and management were on-site and in continued communication until the roadways were reopened. This degree of dedication is why TDOT is recognized as one of the best run transportation agencies in the country.

Photo Credit: Photographs provided by TDOT.

SPOTLIGHT ON 2018 EEA’S PEOPLE’S CHOICE AWARD WINNER: CHATTANOOGA’S BIG DIG

This year’s People’s Choice Award Winner was Chattanooga’s Big Dig, jointly submitted by Civic Engineering and Information Technologies, Inc. (Civic) and S&ME Inc. Managed by Rick Bruce, PE, (S&ME) and Philip Nelson, PE, (Civic), the City of Chattanooga took action to prevent a catastrophic failure of their stormwater infrastructure and potential water contamination from a former landfill. The City requested Civic to redesign the storm conveyance in the historic St. Elmo area of the city. Civic developed a plan to re-route the existing storm water infrastructure around the Wheland Foundry Landfill, and S&ME was contracted to develop a comprehensive Soil and Groundwater Management Plan for management of excavated materials, due to the history of area soil and foundry sand contamination. The new storm water drainage is designed to accommodate a 100-year storm event for an 1,100-acre drainage area. The discovery of contaminated soils complicated the project and brought in additional stakeholders. The new infrastructure has been designed with expansion in mind to pave the way for future development of the area in conjunction with the planned extension of the Chattanooga Riverwalk.

EEA PROJECT SUBMISSIONS DUE JULY 12TH

ACEC Tennessee’s annual Engineering Excellence Awards (EEA) competition recognizes engineering firms for projects that demonstrate an exceptional degree of innovation, complexity, achievement, and value. This year’s EEA will be held on Thursday, November 21, 2019 at the Renaissance Nashville Hotel. Reserve your table, individual tickets, or sponsorship opportunity today. https://acectn.org/2019eea-registration/

EEA entries are accepted into one of 11 categories:

- Studies, Research & Consulting Engineering Services
- Building/Technology Systems
- Structural Systems
- Surveying and Mapping Technology
- Environmental
- Waste & Storm Water
- Water Resources
- Transportation
- Special Projects
- Energy
- Industrial & Manufacturing Processes and Facilities

DATES TO REMEMBER:

July 12, 2019 - Part 1 Online Submission Deadline
Official Entry Forms and fees due via online web portal.

August 23, 2019 - Part 2 Online Submission Deadline
Completed entries (both online and USB) and panels due as instructed in the Call for Entries.

October 7-11, 2019 - EEA Judging Day
November 21, 2019 - EEA Gala & Awards
As you may be aware the new Congress has brought a new bipartisan focus on moving major infrastructure legislation in 2019. In addition to addressing traditional infrastructure needs – roads, bridges, transit systems, airports and water – congressional leaders, particularly in the House, envision a broader effort that may include vertical projects such as schools, as well as broadband access and even energy initiatives. More importantly, lawmakers on Capitol Hill are taking seriously the idea that the infrastructure agenda this year must include significant and sustainable funding in order to be successful, including a long overdue increase of the federal user fee, which has remained at 18.4 cents a gallon since 1993!

Our lobbying effort at ACEC’s Annual Convention and Legislative Summit will focus on this objective, with emphasis on passing legislation that increases federal funding to support surface transportation, aviation, and water projects, restores the solvency of the Highway Trust Fund, and includes tax and regulatory reforms intended to streamline the delivery of a broad spectrum of infrastructure – from traditional transportation and water projects to pipelines, grid projects, communications and rural broadband. While it’s still early in the legislative process, we may have additional policies to advocate for as well, including initiatives to promote workforce development.

NASHVILLE CHAPTER MEETING

The Nashville Chapter of ACEC Tennessee would like to personally invite all of our members to an upcoming luncheon event. We will be providing a Legislative Update and an ACEC overview for members. The event will be July 23rd in Jackwood Hall of the Adventure Science Center. Additional event details will be sent to members via email. We hope you will join us.