

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

May 2, 2022

10:30 am

MEETING MINUTES

- 1) Meeting Kick-off – Came to order @ 10:35 am
 - a) Introductions

ATTENDEES

Brian Hanks – NCDOT Structures Management Unit
David Stutts – NCDOT Structures Management Unit
Kevin Fischer – NCDOT Structures Management Unit
Tierre Peterson – NCDOT Structures Management Unit
Hoang Dieu – NCDOT Structures Management Unit
Gichuru Muchane – NCDOT Structures Management Unit (not present)
Jason Doughty – Modjeski & Masters
Jake Sherman – WSP
Nicole Brown – Alfred Benesch
Bradley Bell – Michael Baker
Kent Dickens – HDR (for Domenic Coletti)
Tom Koch – Wetherill Engineering

- 2) Review of Previous Meeting Minutes
 - a) Previous Meeting Minutes were emailed for review and comment prior to the subcommittee meeting. A few additional clarifications to the minutes were discussed. These clarifications will be addressed, and the finalized minutes will be redistributed to the Subcommittee.
- 3) Bridge Design Workshop Series
 - a) Eliminating Bridge Joints with Link Slabs and Two-Bar Metal Rail MASH Crash Tests will be presented in the McKimmon Center on May 19th from 11:30 am to 1 pm. The event will be held in-person. Jake will follow up with Trey to confirm plans for the speaker(s).
 - b) Domenic will present on Reliable Fit-Up for Steel Girder in August. Dates and location for the event need to be finalized. Currently dates 8/16, 8/17 and 8/24 are being considered. Would like to arrange for a co-presenter

ACEC/NCDOT BRIDGE SUBCOMMITTEE



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10:30 am

on the Construction side from NCDOT on this topic (potentially Aaron Earwood).

- c) The subcommittee discussed Integral Abutment Research being a good topic for a future Bridge Design Workshop. This topic will be added to the Bridge Design Workshop tracking spreadsheet. The spreadsheet will be redistributed to the subcommittee for consideration of topics for the November timeframe.

4) Training Opportunities

- a) Georgia/Carolinas PCI pushed the PCI Bridge Seminar to Spring 2023 such that it does not overlap with the Steel Bridge Forum planned for the Fall. Nicole will stay in touch with Ray Clark at PCI regarding specifics as the event approaches.
- b) A Steel Bridge Forum event will be held on 10/27. The event is an in-person all-day session at the McKimmon Center. Jason shared the draft agenda showing anticipated topics and presenters. Jason will continue to coordinate with NSBA. The order of the speakers may be adjusted before the agenda is finalized.
- c) The 2022 ACEC/NCDOT Transportation Conference has been scheduled for November 30th and December 1st. Lunch keynote speaker has been arranged.

5) Anticipated PEF Opportunities

- a) SMU continues to transfer projects to the Divisions and PMU to take some of the pressure off SMU in managing projects.
- b) SMU has started prescreening 100 projects in the 5-year program and is scoring these projects based on complexity to program project schedules appropriately. Once TIP numbers and SharePoint sites are setup SMU will look to start making some assignments on these new projects. The number of projects assigned will depend on the spend plans and how much funding may be spent on PE versus construction. Condition of bridge replacements will also be a consideration in determining priorities.

Structures Conference Room C

May 2, 2022

10:30 am

- The prescreening process is anticipated to be complete in approximately two months and new assignments may start to come a few months later.
- c) Discretionary Grants are available from the infrastructure bill (IIJA). The Department is still screening projects that are suitable for the application requirements.
 - d) The current Structures LSA may readvertise in 2022 or it may be extended to October 2023 (extended using the optional third year). No definitive decision has been made yet. A decision will soon be reached whether to advertise in 2022 or not. It is also possible SMU requests PEFs to provide staff changes in the work chart.

6) Technical Discussion

a) Manual Revisions:

- i) FIB Standards are not ready for official release. Consultants may request an advance copy of the draft standards if needed for a project. SMU is interested in hearing feedback on the consultants who have reviewed the draft standards. Mixing FIB beams with AASHTO girders or other shapes on a bridge is discouraged. Different girder types on the same bridge should be confirmed with SMU on a case-by-case basis.
- ii) SMU is looking at adding emergency vehicles to LRFR requirements. These new Emergency Vehicles are the EV2 and EV3 as defined by the FAST Act. As these new provisions pertain generally to fire trucks SMU has had discussions with Fire Departments regarding the requirements. It was noted posting for the EV2 and EV3 can be confusing.
- iii) A walls chapter is being added to the Structures Design Manual. The new chapter will break out and build upon the current requirements given in Chapter 12 (Miscellaneous) of the Structures Design Manual. The initial version of this chapter includes additional wall requirements. SMU continues to make progress on this new chapter.

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

May 2, 2022

10:30 am

- iv) The subcommittee discussed recent policy changes to incorporate Geotechnical Foundation Tables into the structure plans. The intent of the new policy is for the Geotechnical Engineer to provide the Structural Engineer with the tables via an electronic Excel file. The Structural Engineer will review the information contained in the Excel file and resolve discrepancies with the Geotechnical Engineer. Once finalized the spreadsheet is used to print a plan sheet to incorporate into the structure plans for signing and sealing by the Structural Engineer. No separate cadd (*.dgn) file for the plan sheet is necessary. A note is placed on the new plan sheet stating the foundation tables are based on bridge substructure design and foundation recommendation sealed by NC PE on date MM-DD-YYYY. The Geotechnical Engineer remains responsible for foundation recommendations and the Structural Engineer reviews the tables to confirm all information is appropriate for the structural design only. For additional information refer to policy memos.

https://connect.ncdot.gov/resources/Geological/Geotech%20Standard%20Specifications/21-06-11_Geotechnical%20Foundation%20Tables%20and%20Piles%20Provision.pdf

<https://connect.ncdot.gov/resources/Structures/Structure%20Spec%20Memos/Geotechnical%20Foundation%20Tables.pdf>

b) Research Projects:

- i) Integral Abutment Research- The research team is reviewing performance of many existing integral abutment bridges built around the State. No new updates.
- ii) Strut & Tie – A research project for use of strut & tie modeling and design of deep concrete elements was initiated. This research is intended to help implement use of strut & tie modeling and design into SMU policy. No new updates.
- iii) Carbon Fiber Repairs – A NCSU research project for use of carbon fiber repairs/retrofit for improving load rating capacity of existing bridges is being performed. Currently working out final capacity increases for cored slab, box beam and channel beam bridges. The

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

May 2, 2022

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repairs are only intended to be used for stream crossing applications.
Still working to get a finalized report.

7) Open Discussion Other Topics

- a) Open Bridge –There are some differences in plan appearance in the transition to Open Bridge due to some font changes. SMU indicated it will be acceptable to use old fonts or a combination of old fonts mixed with new fonts until everything is fully transitioned over to Open Bridge.
- b) Material availability for the 3-bar Metal Rail was discussed due to a recently discovered supplier issue. The Construction Unit is dealing with this issue. There is enough material currently in stock such that it will not impact any current project schedules. Continue to use 3-bar Metal Rail when appropriate.
- c) David would like to know of instances with inconsistent plan comments being provided such as on GESC reviews.
- d) David is working to standardize PEF evaluations to get more feedback to firms on their performance.
- e) Jason and Jake are rolling off the Subcommittee. Jake will distribute resumes via email to elect new members once available from ACEC. Will set plans for new Co-chair(s) before next Subcommittee meeting.

8) Next Meeting: August 1, 2022