

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on July 17, 2000. Those in attendance were:

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| Tim Rountree | State Bridge Design Engineer (Co-Chairman) |
| Berry Jenkins | Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman) |
| Ron Shaw | Lee Construction Company of Carolinas |
| Larry Cagle | Thompson-Arthur Paving Co. |
| Kevin Burns | R. E. Burns & Sons Co. |
| Greg Nelson | S. T. Wooten |
| Ellis Powell | State Bridge Construction Engineer |
| Ricky Keith | Assistant State Bridge Design Engineer |
| John Ledbetter | State Soils & Foundations Engineer |
| Rodger Rochelle | Structure Design Project Design Engineer (Secretary) |

The following items of business were discussed:

1. The minutes of the May 15, 2000 meeting were accepted.
2. *Camber Growth of Prestressed Girders*

Mr. Rountree briefly discussed the issue of reduced rideability due to camber growth. A number of agencies are requiring elevation checks on the girders within two weeks of the deck pour. Mr. Nelson said that he recently checked a bridge with girders two months old. The growth was roughly 3/8" and no adjustments were necessary. Mr. Powell stated that the Department will continue to gather more feedback and data from the field, including the Manteo Bypass elevations. Increased clearance was discussed as a possible means to alleviate rideability problems due to camber growth. A Special Provision on the monitoring of camber growth may result from an examination of field data.

3. *Shoring Review Process*

Mr. Ledbetter summarized the Soils and Foundataions Section's role in the shoring review process. This review includes a pressure diagram, soil parameters, and a check to ensure pile lengths can be installed. Mr. Lambert has prepared a document summarizing the process and will distribute at next meeting. Mr. Cagle stated that often the Contractor is required to take borings but that Soils and Foundation Section does not deem these locations applicable to the sheeting location. Mr. Cagle stated that it would be much more practical if the Department could secure the borings at each sheeting location, including the ends of all culvert and pipe extensions. Mr. Ledbetter will meet with Mr. Moore to explore this possibility. Mr. Powell stated that a policy is being

reviewed to allow the Contractor to use the existing culvert wings as shoring for the culvert extension in some instances.

4. *Unclassified Structure Excavation*

Mr. Powell stated that some contractors have expressed an interest in changing the payment for unclassified structure excavation to lump sum, with a quantity shown on the plans. However, based on concerns over the accuracy of the plan quantities, it was decided to maintain payment on a cubic yard basis with a quantity estimated on the plans.

5. *Construction Joints in RCBC's*

Mr. Powell stated that recently a Contractor has requested to eliminate the mandatory construction joints near the top of the walls for culverts greater than 9 ft. tall. The joint was initially required due to concerns about differential shrinkage of concrete in two planes, resulting in cracked barrels. The Committee agreed that these joints are prudent and the policy should remain as is.

6. *Other*

i. *Small Claims Resolution Form*

Mr. Powell explained the use of the small claims resolution forms. Area Bridge Engineers have the authority to resolve any claim for less than \$25,000 and 14 days. The formal submittal policy shall still be used, however, this policy will allow for quicker resolution of small claims.

ii. *Hauling Restrictions*

Mr. Nelson inquired as to the intent of the hauling restrictions of Article 105-15 of the Standard Specifications. Are these loads intended for each bridge or each lane of the bridge? Specifically, does this article allow the presence of one 90,000 lb. earth moving vehicle and one empty vehicle on the bridge at the same time? Structure Design will investigate the history of this requirement and report to Mr. Powell.

iii. *Foundation Excavation*

Mr. Shaw reported that a recent project had a change from a pile footing to a spread footing, with the footing keyed into rock. The Contractor was informed that the additional excavation necessary would not be paid for. Mr. Powell stated that a claim for this work would be considered as it was due to a change in the character of the work.

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iv. *Column Forms*

Mr. Shaw asked if there has been any recent change in column form acceptance criteria as he has had several rejected lately. No recent change has occurred and Mr. Powell will look into the rejection of these forms.

v. *Drilled Shaft Concrete*

Mr. Powell stated that the slump loss test for drilled pier concrete will no longer be required for those shafts with less than 40 cubic yards. The introduction of stabilizers into this concrete may in part be due to concerns about satisfying this test. These stabilizers are creating extremely low breaks in some cases. Often the low strength is discovered after the column and cap are poured. Several ideas were discussed to alleviate this problem, including additional cylinders for 7 day breaks or for determining if the cylinders are ready to handle. It was decided by the Committee to disallow the use of these stabilizers in drilled pier concrete. The requirement for additional cylinders will be discussed further.

vi. *Miscellaneous*

Mr. Jenkins reported that the recent AGC Conference in South Carolina was successful. Additionally, Mr. Michael Dane of Dane Construction will be replacing Mr. Cagle on the Committee beginning in October.