

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

(Approved: 12/12/12)

The DOT-AGC Joint Bridge Design Subcommittee met on August 15th, 2012. Those in attendance were:

Greg Perfetti	State Structures Engineer (Co-Chairman)
Berry Jenkins	NC Government Relations, Highway Division Director; Carolinas AGC (Co-Chairman)
Mike Robinson	State Bridge Construction Engineer
Chris Peoples	State Materials Engineer
Michael McKoy	State Contractor Utilization Engineer
Rodger Rochelle	Director of the Transportation Program Management Unit
Randall Gattis	Sanford Contractors, Inc.
Larry Cagle	Thompson-Arthur Div., APAC-Atlantic, Inc.
Chris Britton	Taylor & Murphy Construction Co.
Ben Bishop	Lee Construction Co.
Lee Bradley	Blythe Construction
Erick Frazier	S.T. Wooten Corp.
Adam Holcomb	Dane Construction, Inc.
Brian Hanks	Structure Design Project Engineer
Paul Lambert	Structure Design Project Engineer
Scott Hidden	Support Services Supervisor – Geotechnical Eng. Unit
Chris Kreider	Regional Operations Engineer – Geotechnical Eng. Unit
Paul Garrett	State Bridge Program Manager
Gichuru Muchane	Structure Design Engineer

The following items were discussed during the review of the June 13th, 2012 minutes:

1. *PDA Pile Driving Criteria*

Mr. Hidden reported that a new special provision for Pile Driving Criteria will be effective with the September letting. The special provision allows the PDA sub-Contractor to develop the pile driving criteria and requires the driving criteria be submitted to the Geotechnical Engineering Unit for review.

The minutes of the June 13th, 2012 meeting were approved.

The following items of new business were discussed:

1. *Standard Shoring Design*

Mr. Cagle stated that he noticed the Standard Shoring Design appears to have been revised. He asked why the shoring design was revised and discussed the potential impacts to project costs.

Mr. Hidden responded by stating that the Standard Shoring Design had not been revised. He explained that table showing the shoring design had been reorganized and the "Groundwater Condition" sections of the table were switched, which may have resulted in the misunderstanding.

2. *Structure Warranty Periods*

Mr. Bishop expressed concern with warranty periods on structures involving staged construction and/or dual structures. On these projects, traffic is placed on the new structure or a portion of the new structure during construction of the adjacent structure or subsequent stages of the new structure. In these situations, the structure used for phasing traffic is inspected prior to opening to traffic and is re-inspected during the final project inspection.

Mr. Robinson responded by stating that structure warranty periods have not been a problem. He noted that the one year warranty for deck and rails begins on the date traffic is placed on the structure. He

added that typically, the Area Bridge Construction Engineer tracks the warranty period upon notification by the Resident Engineer that the deck has been accepted.

3. *Online Reporting for DBE Commitments*

Mr. Nickel inquired whether the Department was considering online reporting of Disadvantage Business Enterprise (DBE) commitments at the time of submitting bids. He noted that South Carolina was moving in this direction.

After a brief discussion, Mr. McKoy noted that the Department would need some time to look into this proposal. It was decided to discuss this topic at a future meeting.

4. *Good Faith DBE Goals*

Mr. Bishop expressed concerns of fairness in the requirements to meet DBE goals. He noted that Contractors assume a fair amount of risk when incorporating DBE goals in the bid. He added that in some cases the low bidder only demonstrates a good faith effort to meet the DBE goals, but the other bidders actually meet the DBE goals in their bids. To assist Contractors in making reasonable judgments when preparing bids, Mr. Nickel sought clarification on the Department's DBE program.

Mr. McKoy responded by discussing the intent of the Department's DBE program, noting that the framework was based on a disparity study. He added that the Department maintains a database of DBEs, which is considered when establishing the expected level of participation.

The discussion compared the State's DBE goals with the Federal goals and those of neighboring states. Contractors stated that they often have difficulty finding qualified DBE partners to meet the State's goals. Mr. McKoy acknowledged that a periodic audit of the database is necessary to verify the DBE firms that are capable of fulfilling sub-contracts. He encouraged Contractors to continue discussions regarding the Department's DBE program to ensure its success without imposing a significant hardship on the Contractors.

5. *Express Design-Build Update*

Mr. Rochelle provided an update on the Express Design-Build program. He noted the State budget provided approximately \$140 million for the first year of the program, and the total bids for the contracts let during the first year were slightly less than the Engineer's estimate for the contracts. He also discussed statistics that demonstrated broad participation by Contractors and Private Engineering Firms.

Mr. Rochelle also provided an overview of the contracts that will be awarded during the second year. He noted that a workshop on lessons learned from the first year will be held on September 4th, 2012. The workshop will cover minor changes to the program for the second year.

6. *Priming Concrete Pump Trucks*

Mr. Frazier discussed a proposal for an alternate method of priming concrete boom pumps during bridge deck placements. He noted that traditionally grout or a slick pack is used to prime the pump, which results in a few yards of concrete being discarded. The issue with using slick packs is they can cause the air content to increase unpredictably, and it usually requires pumping several yards of concrete before the entrained air stabilizes. Both priming methods result in concrete waste, which takes extra time and money to clean up.

Mr. Frazier proposed using a "Class AA deck grout mix" as a primer. The proposed primer grout would have the same quantities of cementitious material, fine aggregate, and admixtures as the Class AA mix minus the coarse aggregate. This would allow the contractor to pump the primer onto the deck thinly spreading the grout over the deck area (where the fresh concrete is going to be placed) and continue with the normal mix once the pump is sufficiently primed. He noted that this method is used during wall placements, where the priming grout is referred to as bonding grout. He anticipated this

method can work anytime a boom pump is used and noted that when building a bridge over water this would eliminate the need for a grout bucket and the manpower to dispose of the grout. Other benefits include better control of the entrained air. Finally, Mr. Frazier noted that a similar method has been used on a previous NCDOT project.

Mr. Peoples and Mr. Robinson expressed concerns with permanently incorporating concrete in the bridge deck without testing. They also noted that the project using a priming method similar to the proposed method was necessitated by site specific conditions. After some discussion it was suggested the Department evaluate requests to use the proposed pump priming method on a case-by-case basis.

7. *Other*

i. Twenty-five Foot Approach Slabs

Mr. Gattis inquired if the Department had received any reports of large (25'-0") approach slabs, cracking due to uneven movement, especially when they are poured on a sloped grade. Mr. Robinson stated that he had not received any reports of approach slabs cracking due to the grade.

ii. Moment Slabs on Modular Block Retaining Walls

Mr. Hanks showed the Department's current detail for moment slabs cast above a modular block wall. He noted that when the moment slab is integral with the coping on walls with varying height, the thickness of the moment slab will also vary to fill the gaps between steps at the top of the wall. Mr. Hanks also showed a proposed detail where the top of the wall is embedded in the moment slab/coping. He solicited feedback on the preferred wall coping detail from the Contractors.

Contractors noted that both details had unique constructibility challenges, due to the part of the coping that overhangs the wall. They noted that their biggest concern was methods for attaching formwork to the wall. Further discussion indicated that in most cases the portion of the moment slab underneath the travel-way is typically precast, which eliminates the possibility of including preformed steps to match the top-of-wall or a void to embed the top of the wall.

8. *Next Meeting*

The next meeting is scheduled for Wednesday, October 10, 2012 in the Structures Management Conference Room.

Post meeting note:

Due to a limited agenda, the October meeting was cancelled. The next meeting is scheduled for December 12, 2012.