

## MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

(Approved: August 11, 2010)

The DOT-AGC Joint Bridge Design Subcommittee met on April 14<sup>th</sup>, 2010. Those in attendance were:

Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Greg Perfetti	State Bridge Design Engineer (Co-Chairman)
Mike Robinson	State Bridge Construction Engineer
Allen Raynor	Asst. State Bridge Design Engineer
George White	Blythe Construction, Inc.
Chris Britton	Taylor & Murphy Construction Co.
Larry Cagle	Thompson-Arthur Div., APAC
Erick Frazier	S.T. Wooten Corp.
Lee Bradley	Dellinger, Inc.
Pete Weber	Dane Construction, Inc.
Chris Brown	Sanford Contractors, Inc.
Brian Hanks	Structure Design Project Engineer
Paul Lambert	Structure Design Project Engineer
Scott Hidden	Support Services Supervisor – Geotech. Eng. Unit
Chris Kreider	Regional Operations Engineer – Geotech. Eng. Unit
Gichuru Muchane	Structure Design Engineer
Ron Hancock	State Construction Engineer
Randy Garris	State Contract Officer
David Greene	Structural Member Engineer – Materials & Tests Unit

The minutes of the December 9<sup>th</sup>, 2009 meeting were reviewed and approved.

The following items of new business were discussed:

### 1. *Electronic Plans*

Mr. Garris stated that the Department has established an Electronic Plans Strategy subcommittee whose mission is to establish procedures to reduce and/or eliminate hard copies of plans and provide reusable electronic data including plans. He noted that there are 8 groups that will be working on different aspects of the mission. Mr. Garris is Team Lead for the group responsible for making pre-bid and post-bid CADD plans available to Contractors.

Mr. Garris noted that there were numerous issues the sub-committee is working through, such as electronic seals and signatures. In addition, the Contracts Unit in Raleigh will need to process documents so that Divisions can advertise simultaneously. Once a process is developed the Division personnel will require training.

Mr. Garris sought information on what documents Contractors would like to have available electronically. Contractors stated they prefer centralized advertising and letting, i.e. "one-stop shop" for all advertisements and suggested including existing structure plans with the electronic plans. In addition, they suggested some coordination between Divisions to avoid several simultaneous lettings.

### 2. *Division Design-Build Maintenance Contracts*

Mr. Jenkins informed the Committee that there would not be a second round of American Recovery and Reinvestment Act (ARRA) funds (commonly known as stimulus money). However, he noted that the Department will be letting Division managed design-build projects.

### 3. *Cored Slab Standard Bridge Plans*

Mr. Hanks informed Contractors that cored slab standard bridge plans will be available for use on Division managed design-build projects. The standard plans are based on set skews, widths, and span lengths and no superstructure or substructure design work will be required. He noted that they are currently being used by Structure Design engineers and they will be used for the Low Impact Bridge Program.

Mr. Hanks gave an overview of how the standard plans will be assembled. The discussion noted that Private Engineering Firms (PEFs) will perform the preliminary engineering and coordinate with the various disciplines to work out the bridge layout, and develop the General Drawing. No additional design work or drafting will be required after the General Drawing is prepared. Thus, engineering cost savings will be realized by utilizing the standard plans.

Mr. Jenkins was in favor of using standard plans, noting that standardization saves money.

Mr. Perfetti noted that there are still some issues that need to be worked out, such as liability and sealing the plans. He added that PEFs are welcome to analyze and verify the standard designs. Contractors preferred PEFs seal the bridge plans for design-build projects, but noted that small bridge replacements should not be design-build projects.

### 4. *Maintenance of Effort (MoE) Projects*

Mr. Hancock discussed the Department's efforts to meet the ARRA funding requirements. In particular he noted that ARRA required the Governor to certify the State will maintain planned spending from February 17, 2009 to Sept 30, 2010. He added that failure to meet the certification may result in the State forfeiting a portion of future federal funding.

As such, he requested Contractors assist the State in meeting the certification. He discussed the Construction Unit's strategy to meet the ARRA requirements. Contractors were encouraged not to delay submitting invoices for materials payments and they should plan to make material purchases for upcoming projects sooner rather than later. In addition, Mr. Hancock requested Contractors advise the Resident Engineers' offices of this request.

### 5. *Fall Protection Inserts in Prestressed Members*

Mr. Greene stated that Materials and Tests Unit Inspectors have noticed inserts being placed in prestressed members for the purpose of fall protection. He noted that no one is reviewing the capacity of the inserts with respect to performance for fall protection. He added that the industry standard spacing and size of insert allows the Department to only evaluate the effects of the inserts on the performance of the girder.

After some discussion Contractors were reminded that all miscellaneous parts should be shown on the Shop Drawings, which are submitted to Structure Design's Working Drawings group. It was reiterated that the Department does not wish to analyze Contractor inserts, but just verify that the inserts do not affect the performance of the prestressed member.

### 6. *Pre-Drilling for Pipe Pile Tip Elevations*

Mr. White stated that Contractors assume a fair amount of risk when driving piles to the minimum tip elevation required in the plans. This risk is magnified when it may be necessary to punch or drill through a layer of hard material to achieve the minimum tip elevation. He inquired if the Department was more interested in achieving the minimum pile tip elevation or the required pile bearing capacity.

After some discussion, Contractors suggested that a separate pay item for pre-drilling for piles would help prepare bids that competitively account for the possibility of pre-drilling. Mr. Hidden noted that the special provision for Piles was revised in March 2010 and now includes a pay item for pre-drilling. The designer will include the pre-drilling pay item in the plans when it is warranted.

7. *Evazote Joint Seals*

Mr. Bradley and Mr. Britton stated that Contractors have concerns with the durability of evazote joint seals. Most of the concerns are related to the durability of vertical joints (field butt splice welds) and adhesion to the elastomeric concrete headers. Mr. Bradley displayed evazote joint materials that were not installed on a bridge, but had been exposed to normal weather conditions. It appeared that some evazote joint materials were less susceptible to curling and bulging and some materials displayed separation in the vertical joints.

During the discussion Mr. Robinson noted that the Department is in the process of gathering information on the field performance of evazote joint seals. It was noted that the Department discontinued use of compression seals because they were expensive, difficult to install, and cannot be easily spliced in the field.

8. *Other*

i. Elastomeric Concrete

Mr. Robinson reported the new special provision for Elastomeric Concrete is now effective. He noted that currently only a couple of elastomeric concrete mixes have been prequalified.

9. *Next Meeting*

The next meeting is scheduled for Wednesday, June 16, 2010 in the Structure Design Conference Room.

Post Meeting Note:

Due to a limited agenda, the June 16<sup>th</sup> meeting was cancelled. The next meeting is scheduled for August 11, 2010.