MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

(Approved: June 13, 2012)

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

Greg Perfetti	State Structures Engineer (Co-Chairman)
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Ron Hancock	State Construction Engineer
Mike Robinson	State Bridge Construction Engineer
Njoroge Wainaina	State Geotechnical Engineer
Allen Raynor	Assistant State Bridge Design Engineer
Randall Gattis	Sanford Contractors, Inc.
Chris Britton	Taylor & Murphy Construction Co.
Philip Creasman	Taylor & Murphy Construction Co.
Ben Bishop	Lee Construction Co.
Dan Nickel	Carolina Bridge Company
Lee Bradley	Blythe Construction
Mark Johnnie	Balfour Beatty
Adam Holcomb	Dane Construction, 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
Paul Garrett	State Bridge Program Manager
Gichuru Muchane	Structure Design Engineer

The minutes of the December 7, 2011 meeting were reviewed and approved with minor editorial corrections.

The following items of new business were discussed:

1. *Approval of Pile Driving Criteria*

   Mr. Gattis expressed concerns with the amount of time required to review Pile Driving Analyzer (PDA) data and subsequently develop pile driving criteria. He noted that PDAs have become more common with the implementation of LRFD. He added that pile driving activities can significantly influence scheduling of other construction activities on projects with short road closure periods. Mr. Gattis also inquired why some Resident Engineers do not allow Contractors to continue driving piles at their own risk.

   Mr. Wainaina responded by stating that the amount of time required to develop the pile driving criteria is determined by scheduling of the tasks involved in the process. Mr. Kreider described the typical workflow for a PDA submittal and he explained how PDAs facilitate LRFD design efficiencies, refined driving criteria and curtail overstressing piles during driving. Mr. Hidden suggested revising contracts to allow, and compensate, the PDA sub-contractor to develop the pile driving criteria, which will reduce the time required for Contractors to receive the pile driving criteria. Mr. Wainaina noted that the expertise of PDA firms varies significantly; therefore a quick review of the pile driving criteria by the Geotechnical Unit would be necessary.

   Mr. Robinson added that he will instruct Resident Engineers to allow Contractors the option to continue pile driving, at their risk, when routine driving conditions are anticipated.

Contractors were in favor of allowing the PDA sub-contractor to develop the pile driving criteria. The discussion noted that the added responsibility will add a nominal amount to the PDA sub-contractor's fee.

2. *Standard Spacing Option for Overhang Falsework Hangers*

   Mr. Lambert distributed a draft revision of the special provision for *Falsework and Formwork*. The draft revisions allow Contractors the option to use a standard overhang falsework design for AASHTO and modified bulb-tee prestressed concrete girders. The standard design is based on the safe working loads of commonly available hangers and rods, and includes design parameters, such as bridge deck overhang width and edge thickness, screed weight, and overhang bracket leg length for each girder type. Mr. Lambert solicited Contractor feedback on the proposed revision.

   The discussion noted that the proposed revision would replace the standard overhang falsework design worksheets, which are currently included in the contract plans for projects using AASHTO Type III and IV girders. It was also noted that use of the standard design will not eliminate the requirement for a submittal for overhang falsework. However, use of the standard design will streamline decision-making on overhang falsework hardware and expedite preparation of the casting drawings for submittal.

   Contractors were in favor of a standard design for overhang falsework, provided the option to submit non-standard designs for review and approval is maintained.

3. *Sampling Reinforcing Steel*

   Mr. Gattis discussed the Department's requirements for sampling reinforcing steel. He noted that for steel that is shipped with a Materials and Tests (M&T) Form 913, no acceptance sample is required. However, when the form is not included then a sample is required based on the total weight of the steel. In addition, the sampling rate for epoxy coated reinforcing bars is different than that for black reinforcing steel. Contractors added that payment for providing the samples was also unclear.

   The discussion noted that the independence assurance requirements are administered by M&T. It was noted that there had been some revisions to the sampling requirements with regard to providing the samples in the shipment in lieu of cutting out samples and splicing in replacement bars. Mr. Robinson stated that he will consult with M&T to obtain clarification on the sampling requirements and report back to the committee at the next meeting.

4. *42" Vertical Concrete Barrier Rail*

   Mr. Holcomb stated that he had noticed the 42" vertical concrete barrier rails were detailed on a couple of recent projects. He inquired if the Department was transitioning away from the customary 32" tall bridge rails to 42" rails.

   Mr. Perfetti responded in the affirmative and he added that the 32" New Jersey shape barrier rail would be replaced by a 42" F shape rail upon obtaining approval from the Federal Highway Administration (FHWA). Mr. Hanks added that bridge rails are required to be crash tested or approved as crash test equivalent by FHWA.

5. *Division Let Dates*

   Mr. Hanks displayed and discussed a recent memorandum, from the State Highway Administrator, which set the schedule for Division Let dates. The let dates were summarized on a State map for each Division. The new let dates are intended to minimize overlap in neighboring Divisions, provide consistency for Contractors and coordinate efforts with the central lettings.

   Mr. Jenkins requested a copy of the memorandum and map to post on the Carolinas AGC web site. Mr. Hancock offered to contact the Contracts office to request a copy of the map.

6. *Bid Quantities for MSE and Modular Block Walls*

Mr. Bradley stated that recent projects have combined mechanically stabilized earth (MSE) walls and modular block walls in the same bid quantity. He noted that since walls are paid for on the basis of exposed area, there is considerable risk to the Contractor when estimating the quantities required to construct walls for bidding purposes. He suggested the Department separate the bid items for the two wall types.

Mr. Hidden responded by stating that modular block walls that require reinforcing (straps or grid) are considered MSE walls. He noted that projects with critical and non-critical MSE walls do not make a distinction between the various MSE wall types, resulting in a single "MSE Retaining Wall" bid/pay item.

The cost of the facing for block walls vis-à-vis the cost of MSE wall panels was discussed. Contractors noted that there is a significant cost difference between modular block walls and MSE walls, and Mr. Bradley offered to provide a cost comparison. During the discussion, various methods of bidding for the walls separately were suggested, which included paying from MSE walls by type (critical versus non-critical) and paying for MSE walls by location, e.g. station, or other identification. Mr. Wainaina suggested the Geotechnical Unit discuss the concern internally and report the resolution to the committee.

Post Meeting Notes

i. Mr. Bradley provided the following wall facing cost comparison:

- Segmental block walls (block, grid and engineering): ~$7/ft^2.
- MSE Walls (panels, strips and engineering): ~$16/ft^2.

In addition, he noted that the equipment cost for MSE walls is also a little higher than for block walls.

ii. The Geotechnical and Construction Units discussed payment for MSE walls and resolved to pay for MSE walls by an identifying wall number. The "MSE Retaining Walls" pay item will be revised to "MSE Retaining Wall No. ___".

7. *Location Sketches on Contract Plans*

Mr. Hanks displayed a sample Cover sheet and General Drawing sheet showing the Location Sketch for a typical set of contract plans. He noted that the Location Sketch duplicated information that is shown in the Roadway Plans. He inquired if eliminating the Location Sketch from contract plans for subregional tier bridges would adversely affect the Contractor's operations.

Contractors stated that they typically use the bridge coordinates or the Vicinity Map, which is available on the Cover sheet, to locate the project site; therefore eliminating the Location Sketch would be inconsequential.

8. *Other*

iii. Wage Rate Survey

Mr. Jenkins informed the Contractors that the Department is conducting a Highway Construction Wage Rate survey of active and ongoing construction. The survey period will be February 27, 2012 through April 11, 2012. He noted that data from this survey will be used to establish prevailing wage rates for federally funded or federally assisted highway projects as required under the Davis-Bacon and related Acts.

Mr. Jenkins discussed the importance of participating in the survey. He distributed an Index of Job Classifications Used for Highway Construction in North Carolina and explained how to use it

when completing the online survey. He also noted that each county has been designated as rural or metropolitan within the East, Central, and West regions of the State.

Mr. Jenkins encouraged all Contractors to participate in the survey and he urged them to encourage sub-contractors to also participate in the survey. He added more detailed information on the survey will be posted on the Carolinas AGC web site, and he noted that an NCID will be required to logon on to the survey website.

Mr. Hancock described some of the methods being used by the Department to disseminate information on the survey and to promote broad participation from the highway contractors.

9. *Next Meeting*

The next meeting is scheduled for Wednesday, April 11, 2012 in the Structures Management Conference Room.

Post meeting note:
Due to a limited agenda, the April 11, 2012 meeting was cancelled. The next meeting is scheduled for June 11, 2012.