MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on July 19, 1999. Those in attendance were:

Tim Rountree	Assistant State Bridge Design Engineer
Greg Perfetti	Assistant State Bridge Design Engineer
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Ron Shaw	Lee Construction Company of Carolinas
Randall Gattis	Sanford Contractors, Inc.
Larry Cagle	John H. Brinckley, Inc.
Ellis Powell	State Bridge Construction Engineer
Victor Barbour	State Contract Officer
David Greene	Structural Members Engineer
Nariman Abar	Soils & Foundations Engineer
Rob Woodruff	Structure Design Project Engineer
Rodger Rochelle	Structure Design Project Design Engineer (Secretary)
Kirit Desai	Structure Design Project Design Engineer

The following items of business were discussed:

1. The minutes of the March 15, 1999 meeting were accepted.

2. *Joint Carolinas AGC-DOT Conference*

   Mr. Jenkins stated that this year's conference was well attended, considered a success by industry representatives, and that the conference inspired a communicative climate.

3. *Painting Steel Piles*

   Mr. Powell stated that based on the last meeting, it was proposed that two pay items be developed for “Steel Piles” and “Painted Steel Piles”, both to be paid for by the linear foot. However, concerns with this decision exist in that cutoffs are not paid for when compensated by linear foot. Mr. Gattis stated that it would be reasonable for painting of steel piles to be paid for lump sum on a prorated basis. The payment for overrun of painting steel piles would then be determined by dividing the lump sum bid for “Painting Steel Piles” by the plan quantity and applying that rate to the overrun.

   Mr. Barbour expressed a concern regarding uniform application of this policy in the field. Mr. Powell concluded, and the committee agreed, that the payment for “Painting Steel Piles” should remain as lump sum and should indeed be prorated as proposed by Mr. Gattis through the use of a small claims resolution form. To ensure uniformity in the field, the Project Special Provision for “Painting Steel Piles” will be revised to reflect the policy of payment for overruns of this item. Mr. Shaw recommended stating

in the contract that no additional payment be made for painting of splices deemed necessary in the field.

4. *Material Utilization of Unfabricated Steel*

Mr. Greene distributed a form entitled "Structural Steel 'Raw Materials' Verification" to be used for documenting invoices for unfabricated structural steel. This form is to be completed and stamped by the NCDOT Inspector and forwarded to the fabricator. The form may then be submitted for payment to the Resident Engineer via the contractor. Mr. Jenkins and the committee expressed that this form was a substantial step in the right direction and that the form should be implemented immediately. Mr. Greene stated that no Project Special Provision would be required to explain or accompany this form.

5. *Geotechnical Information*

Mr. Powell stated that he had received an e-mail from Bill Moore soliciting input on pending changes to the legends portion of subsurface investigation reports. Mr. Abar stated that a committee has been established to more precisely classify rock, particularly in regards to the gray area of soft weathered rock. The refinement of the classification is intended to clarify the geology for the contractor. Mr. Shaw stated that this issue is especially critical for the drilled pier contractors, as the payment for "Drilled Piers in Rock" is substantially higher than that for "Drilled Piers Not in Rock." The issue is also important in regards to temporary shoring for the maintenance of traffic.

Mr. Jenkins encouraged this effort but no other general suggestions were offered by the committee at this time. Mr. Abar will distribute a draft copy of the committee findings to the DOT-AGC committee at such time that it becomes available. Mr. Moore may be invited to address the committee directly. Mr. Powell suggested that this draft resolution be forwarded to several drillers and contractors for industry feedback.

6. *Elastomeric Concrete/Armored Evazote Joints*

Mr. Woodruff distributed a copy of the new standard drawing for armored evazote joints illustrating an unreinforced blockout filled with elastomeric concrete surrounding armor. The previously used detail is performing poorly as evidenced by the recent Joint Tour. Mr. Woodruff explained that the previous armoring detail resulted in numerous joints rattling, due to either a separation of the studs from the angle or diagonal cracking behind the angle. Mr. Gattis stated that this new detail looks sound and could prove to be easier to install.

For projects currently under contract, plan revisions are being made to incorporate the new detail. Shop drawings that pertain to these joints will be marked up to include the new detail but a resubmittal for this purpose will not be required. For recent installations, soundings will be made to determine the consolidation of the concrete around the angles. Mr. Powell stated that an assessment would be made as to whether

the contractor's methods contributed to any voids or loose armor. Repairs will then be made via epoxy injection.

Mr. Powell expressed concern on the width of the blockout. Mr. Rochelle stated that this width was common in manufacturer's literature. Mr. Perfetti stated that blockouts of this magnitude have been used in the state with good success. Mr. Shaw stated that the blockout width could be shown as a minimum on the plans. This idea was supported by the committee and the standard drawing will be revised accordingly.

Mr. Woodruff described a hold or levelling device used to support and align the angles prior to pouring the elastomeric concrete. This expansion anchor/tab system would negate the need for the yoke support system across the top of the angles. It was decided that this detail should also be shown on the standard drawing. Mr. Cagle suggested that if this system is shown on the plans, the contractor should be given the option to submit another system for approval.

7. *Other*

i. *Anchor Bolt Shop Drawings*

Mr. Desai stated that, after further review, Mr. Lambert feels that anchor bolt shop drawing review occurs in a very timely manner and as such there is no need to eliminate these submittals. Mr. Cagle emphasized that although the review process may be timely, the entire submittal process may not be and can easily affect production schedule in one way or another. Mr. Rountree stated that it may still be possible to place these anchor bolt requirements on the contract plans and therefore eliminate the need for these submittals. This possibility will be further investigated.

ii. *Rock Causeway Riprap*

Mr. Shaw inquired as to the compensation for riprap that serves as both a temporary rock causeway and permanent slope protection. Mr. Powell stated that this situation has been addressed on a couple of previous projects by paying for the slope protection at a reduced price. Suggestions for treating this situation included 1) requiring that the rock causeway riprap be used as slope protection or 2) making the slope protection incidental to the causeway and paying for additional slope protection by the ton. Mr. Jenkins stated that these issues may need to be addressed further as the industry becomes increasingly obligated to self-contain each project.

iii. *Pile Hammers*

Mr. Gattis raised a concern about greater tonnage on piles making the smaller D12 hammers obsolete and requiring the purchase of larger hammers. Mr. Abar stated that the FHWA initiated the push for greater pile tonnage and that the small hammers are not always disqualified. In the interim, some of the smaller hammers can be modified by the contractor or manufacturer to increase their efficiency. Mr. Gattis offered to provide feedback as to these modifications at the next meeting.