

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

(Approved: 4/14/10)

The DOT-AGC Joint Bridge Design Subcommittee met on December 9th, 2009. 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
George White	Blythe Construction, Inc.
Randall Gattis	Sanford Contractors, Inc.
Chris Britton	Taylor & Murphy Construction Co.
Mark Johnnie	Balfour Beatty
Erick Frazier	S.T. Wooten Corp.
Lee Bradley	Dellinger, Inc.
Pete Weber	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
Gichuru Muchane	Structure Design Engineer
Kenny Boggs	Carolinas AGC
Bill Smith	Hirschfeld Industry (Carolina Steel)
Steve Walton	Metals Engineer – Materials & Tests Unit
Bob Andrews	Director – Safety and Risk Mgmt. Unit
Larry Purvis	Safety Operations Engineer – Safety and Risk Mgmt. Unit

During the review of the October 14th, 2009 meeting minutes, the following items were discussed:

1. *Correction to the Minutes*

Mr. Hidden requested that in the last paragraph of Item 6 – *LRFD Piles* “hammer” replace “crane.”

2. *Drilled Pier Pay Items*

Mr. Robinson stated that he met with drilled shaft sub-contractors and equipment manufacturers to discuss the differences between drilling in soil and drilling not in soil. The discussion noted that there was no significant difference in the drilling operation, and therefore transitioning to a single drilled pier pay item appears to be feasible. Mr. Robinson also noted that the drilled pier industry representatives suggested the subsurface conditions be placed on the plans and recommended the Department use a soil penetration test (SPT) to determine the transition from soil to rock.

3. *DBE Sub-Contracts*

Mr. Jenkins distributed a revised DBE/MB/WB Subcontract Certification form for Contractors' review and comments. He requested Contractors channel their feedback through him.

The minutes of the October 14th, 2009 meeting were approved.

The following items of new business were discussed:

1. *OSHA Directive on Shop Welding Shear Studs*

Mr. Jenkins introduced the Safety Director at Carolinas AGC, Mr. Kenny Boggs.

Mr. Boggs distributed a list of OSHA construction standards from the *North Carolina Administrative Code* (NCAC). He elaborated on the rule for steel erection that requires field installation of "Shear Studs" or "Nelson Studs." He stated that this rule was primarily formulated to address safety concerns, such as tripping hazards, experienced in building construction, but noted it impacts bridge construction. He added that State Departments of Transportation have expressed concern with field-installed shear studs on highway bridge construction projects because of potential increased construction costs, diminished weld quality, and increased construction time.

Mr. Boggs stated that OSHA had previously agreed to offer relief to highway bridge construction activities and he noted that shear studs are shop-welded in most States. However, there has been some discussion regarding enforcement of this OSHA rule by the new federal administration. He added that OSHA State Plan States, such as North Carolina, will continue business as usual because, under an agreement with OSHA, the State Plan States operate their own job safety and health programs.

Contractors were not in favor of field-installed shear connectors. They noted that a typical bridge girder normally requires a few hundred shear studs, which would significantly increase construction time and costs. The discussion also noted that fabricators often request waivers when Contractors place orders for girders with shop-installed shear studs.

Mr. Purvis noted that federal enforcement of OSHA rules appears to have increased. Crane safety is a top priority. Crane safety includes certification for crane operators and documentation of training for riggers and flaggers. Contractors were encouraged to share this information with the crane rental companies.

2. *Predrilling for Piles*

Mr. Hidden stated that the Department has successfully utilized piles in pre-drilled holes on a couple of trial projects. He added that the Department would like to utilize more piles in predrilled weathered rock as a cost-effective alternative to drilled piers.

Mr. Hidden distributed a draft revision to the Special Provision for Piles, which includes verbiage to permit predrilling for piles, and he requested feedback.

Contractors inquired if casing was required when drilling in water and whether pipe piles may be used in lieu of casing. Mr. Hidden responded by stating that the provision requires casing when drilling in water and drilling inside of a pipe pile was not allowed.

3. *Steel Diaphragms for Modified Bulb-Tee Girders*

Mr. Hanks distributed a new standard drawing for steel diaphragms on modified bulb-tee girders.

Contractors were very receptive of the steel diaphragms and inquired if they may substitute the concrete diaphragms with steel diaphragms on existing projects. Mr. Perfetti responded in the affirmative, but noted that planning for the steel diaphragms will need to occur prior to producing the girders.

Mr. Robinson inquired if there was any salvage value of steel diaphragms if they could be removed after the bridge deck is poured. Contractors responded in the negative noting that the cost savings realized from using steel diaphragms was in the significantly shorter installation time.

4. *Next Meeting*

The next meeting is scheduled for Wednesday, February 10th, 2010 in the Roadway Design Conference Room. 2010 meeting dates are: April 14th, June 16th, August 11th, October 13th, and December 8th.