

NC DOT / PCI Meeting Minutes

November 12th, 2008

Attendees – See Attached List

Peter Finson announced that William Nickas, P.E. is the new Transportation Services Director for PCI. He replaces John Dick who retired.

Presentation - None

Technical Committee Meeting – There was no Technical Committee meeting held since the last full committee meeting. However, several technical issues were discussed:

- a) Cracking – Structure Design is reviewing the proposed prestressed cracking provision. It will be sent out to the industry for comments.
- b) Transverse Holes – The industry asked if the transverse holes in cored slabs and box beams could be made larger. 2½ inches for cored slabs and 3 inches for box beams were suggested. Larger holes would make it easier to thread the transverse strands. Structure Design will investigate.
- c) Box Beam Shear Key Details – The industry suggested deepening the shear keys on box beams, possibly down to the top of the transverse holes. Structure Design will investigate.
- d) Box Beams For Staged Construction: – The industry asked if this was a possibility. As with cored slabs, there are problems with tensioning the transverse strands and tying the two stages together. Structure Design will consider this.
- e) 0.6 Inch Strand – 0.6” strand is now the industry standard. Structure Design is now detailing for 0.6” strand but there are some “shelf” projects still showing 0.5” strand. Bridge Maintenance will consider changing their designs to 0.6” strand.
- f) Camber – A research project was proposed to study how calculated camber compares to actual camber and how camber grows over time. It was noted that Virginia Tech did a study of camber on the new Cooper River Bridge in South Carolina. They developed a remote camber measuring device.

Future Projects - It was noted that there has been no change in the proposed letting list: approximately 90 projects total in 2009.

- a) Oregon Inlet – currently advertising for firm qualification with a possible June letting.
- b) I-85 Over The Yadkin River – currently not programmed.
- c) Western Wake Expressway – under design by the NC Toll Authority but there are funding problems and the letting date is unknown.

“Tiered” Bridge Design – The Department is now using a “tiered” bridge design philosophy. This means that the “same” bridge will not be built at every location. Designs for secondary roads and minor NC routes will be designed to the level of service for the road. This will result in bridges having shorter spans, narrower decks, bents in water, and pile bents instead of drilled shafts.

Prestressed Concrete Economical Fabrication (PCEF) – The next meeting is scheduled for Thursday, February 16th, 2009 in Columbia.

Lead Times For Prestressed Members - The Department is concerned about when prestressed members are available for delivery to the project. Frequently the sub-structure is ready and the members are still in fabrication. This issue will probably work itself out in the short term with the reduced work load. The Industry suggested that the members could be “pre-purchased” by the Department under a separate contract with sufficient lead time so fabrication is completed well before the project is ready.

Twisting Of Skewed Cored Slabs – As discussed in previous Technical Committee meetings, cored slabs with heavy skews twist such that one end or the other will not sit flat on the bearing pad. Solutions suggested are thicker bearing pads (1” or greater) and three point bearing. However, these solutions don’t fully resolve the problem.

Georgia Alternate Design Specification – The industry distributed a copy of Georgia DOT’s specification for substitution of strands. It was asked if the Department could do something similar. Current NC DOT specifications allow redesign of prestressed members only in conjunction with a value engineering proposal. The Department does not currently have the staff to review proposed contractor/producer design changes.

Post-Tension Bent Caps – The Department asked if any producer had experience with post-tension bent caps. Such caps could greatly speed construction. Bayshore indicated they had done several. The key is to match-cast the mating surfaces.

Deck Girders – The Department is interested in doing another deck girder bridge and is currently looking for possible accelerated construction projects. I-40 Business in Winston-Salem is a possible candidate.

Funding – North Carolina is facing a projected state budget shortfall of \$3 Billion. This has and will continue to impact the letting schedule. There is the possibility of addition Federal funding but the details are still being discussed in Washington.

Standard Design Cored Slab Bridges – Structure Design is redesigning their cored slab standards for 0.6” strand. A 24” deep cored slab may be developed for longer spans (60’ to 70’) on sub-regional tier bridges.

Meeting Minutes On The Web – Materials and Tests will put the meeting minutes on its website.

PCI / National Bridge Conference – The Department is grateful to the Georgia/C Carolinas PCI Branch for sponsoring four Department attendees to the PCI/National Bridge Conference in Orlando. PCI would like to continue this. The next conference is scheduled for Sept 12-16, 2009 in San Antonio, Texas.

NPCA Prestressed Plant Certification – The Department is being pressured by the National Precast Concrete Association to allow NPCA certification as an equal alternate to the current PCI certification. The Department feels that PCI better represents the prestressed concrete industry. PCI is more involved with research and expanding the technical aspects of the industry. NPCA is more geared toward marketing. The Department will take no action on NPCA certification at this time.

Dimensional Tolerances – The dimensional tolerances in the Standard Specifications were developed before the larger member cross-sections that are in use today were developed. The industry asked if the Department could review the tolerances in light of this. There have been some camber and sweep issues on some of these larger members that were out of the current specifications but may be acceptable. The industry also expressed concern about when dimensional tolerances are taken, especially camber. It was noted that there has been no national effort to revise the tolerances listed in the PCI Specifications.

Future Meetings – March 25th, 2009

July 15th, 2009

November 18th, 2009

ATTENDEES - 11/12/2008

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