

Bridge Technical Committee - Minutes

July 24th, 2014

1:00 PM– 3:30 PM

SW District office (Dane – Columbia Rooms)

Subcommittee Reports:

1. **Concrete Masonry Structures – Ready Mix Industry Concerns.** - Two meetings have been held with internal WisDOT Business areas and a number of discussion items identified. A letter has been sent to Cherish Schwenn of the Wisconsin Ready Mixed Concrete Association. Cherish has asked for time to circulate and discuss the WisDOT discussion items and that this not be an item on the July Bridge Technical Committee Agenda. – Meetings have been Scheduled and Responses formulated to Ready Mix Industry
2. **Convening a subcommittee to develop a ride quality specification for bridges – (Jim Parry)**
 - Bridge ride specification sub-committee is expected to form this fall (November). Jim Parry has requested involvement from BTC Membership.

Standing Topics:

1. **Hoan Bridge Update** (Laura Shadewald)
2. **USH 41 Update** (Bill Dreher) –
3. **Zoo Interchange** (Laura Shadewald)
4. **IH-39 (Illinois – Dane County)** (Laura Shadewald & Jim Lucht)
5. **Verona Road (Madison)** (Laura Shadewald & Brandon Lamers) –
6. **Every Day Counts – EDC-3 (Initiatives)** (Bill Oliva)
7. **Wisconsin Highway Research Program (WHRP) Bridge Items** – (Bill Oliva)
 - A request for names of new contractor members was discussed.

Previous Meeting Carryover Topics:

1. **Updates - Concrete Slope Paving Constructability and joint design and layout. (Kevin McMullen)** A few of the contractors would like to eliminate the details where the slope paving is done in layers and with keyway joints in favor of placing the entire slope and sawing or forming joints. And the joints are tied together with #4 tie bars.
 - James Luebke agrees that improvements can be made to current concrete slope paving details. He proposed adding an alternative detail, to the bridge standard detail 15.03, that includes sawed joints and tie bars. Draft plans will be sent to Kevin McMullen in the fall of 2014 for review prior to publication.

New topics:

1. Railroad Work and Insurance Issues – (Greg Baer)

Greg has some updates on insurance requirements of contractors and or construction staff working around Railroads.

- Railroad work: Greg Baer reported that BNSF on the west side of the state requires \$5M and \$10M insurance. (\$2M and \$6M is still what other RR's require). Inspection – if DOT inspection, RR still requiring a rider to their insurance.

2. Updates on Precast Pier Elements and Pier Design Guidance – (Dave Kiekbusch)

- Update on use of Pre-cast bridge elements on I-90 (Stems and Caps) and other projects.
- Dave Kiekbusch discussed the use of precast piers and pier design philosophy, in general. WisDOT intends to take the idea of precast piers from research to implementation, starting with a collaborative effort with the I-39 team, with input from the precasters and contractors. Piers will be designed and bid as cast-in-place, with the option to utilize precast. In order to facilitate an easy swap-out, cast-in-place piers will need to be designed and detailed in shorter segments (2 or 3 column). The benefit of doing this, besides facilitating the precast option, is a reduction in thermal forces, most notably in the most exterior footings. Various input was given, which BOS greatly appreciated and will keep in mind when forging ahead with this concept.
- In Plant Fabrication Inspection may occur in the same manor that Prestressed Girders are inspected. Please make sure project teams coordinate with WisDOT Bureau of Technical Services prior to fabrication.

3. Practice of specifying a 1'- 6" min. dimension from the face of the footing to the cofferdam and variations to this policy/practice – (Kristin VanHout)

My main concern is the designer gets the excavation quantity and the seal concrete quantity closer to what is done in the field. The designers use 1' 6" in their comps and then contractors build bigger cofferdams so the extra concrete is always an argument.

- The contractors don't feel as though the 1'-6" dimension normally detailed from the edge of footing to edge of seal is adequate. Dave Kiekbusch agreed and will change the standard to 3'-0" (NOTE: the standard has been changed in the July release of the Bridge Manual). Darrin Stanke was pleasantly surprised with how easy this change was agreed to! – Another Satisfied Customer!

- 4. Combination rail and possible difficulties of the base plate back row anchors being beneath the rail element. – (Dave Kiekbusch)**
 - Dave Kiekbusch asked the contractors if having post-installed anchor bolts beneath the rail element was extremely difficult. (Requests have been made to BOS to change the base plate, which creates bolt edge distance issues, etc.). The contractors assured that one just has to place the rail, mark the holes, remove the rail and drill the holes -- an extra step or two, but not a big issue. No change to the standards.

- 5. Contractors are saw-cutting joints into abutments and pier caps rather than using the zinc plate alternate construction joint as shown on Standard 12.09. General Discussion – (Dave Kiekbusch)**
 - Dave Kiekbusch noted that contractors were saw-cutting joints into abutments and pier caps rather than using the alternate zinc or plastic plate detail. The Department does not want contractors saw-cutting and the contractors agreed that the plate should be used and nobody should be saw-cutting.

- 6. Bridge plans are now calling for grade 1 instead of grade 2 structure backfill. – (William Ryan)** Certain Bridge plans are now calling for grade 1 instead of grade 2 structure backfill. The bid item is still 210.0100 Backfill Structure and a note is inserted in the General Notes stating “The gradation of the structural backfill shall meet the requirements of section 209.2.2 of the standard specs for grade 1 material. Section 209.2.2 is Granular Backfill. If the Dept. wants granular backfill why not use that bid item. The only material we can find to make the grade 1 spec is concrete sand and the ready mix companies are reluctant to sell this material because then it shorts them material at the plants. It is also very expensive. This has been a big issue in the western counties of the state.
 - There is an apparent issue with certain bridge plans calling for grade 1 instead of grade 2 structure backfill, and with availability issue in the southwest part of the state. Laura Shadewald stated that she is part of an effort to address this issue with specification clarification, or a new bid item.

- 7. Slip formed parapet wall – (Joe Larson)**

A number of years ago the industry reached out to the Department about the possibility of slip formed parapet wall. At that time, the Department elected to stay with the traditional hand formed barrier wall. With project schedules becoming increasing more restrictive the slip formed parapet wall will be a huge time savings. Additionally, the cost per liner foot of slip formed parapet wall is much cheaper per lineal foot of wall. We traditionally form, pour and strip 200LF-300LF of standard wall (no form liner) per calendar day; consequently, a slipped formed barrier wall crew will often time get 1000LF to 1500LF.

 - Joe Larson brought up the slip-forming of parapets, citing success in North Dakota and Minnesota. Dennis Manning says they’ll rip it out if it isn’t good. Kevin McMullen said that a pilot project could be done. Chris Kirchner says you’ll get a better service finish. Joe said that it would lend

itself well to ABC and invited BOS to come to Minnesota to see slip-formed parapets poured. Dave and Laura both expressed some concern as other states have stated that if they hadn't started slip-forming parapets, they wouldn't now start knowing what they now know. Bill Oliva stated that BOS will investigate this further. After investigation BOS *may* still not allow, but there will be more substantial reasons as to why not. This item was brought forward as a research idea for WHRP Structure TOC for consideration. There were higher priorities voted for spring 2015 Research Projects.

8. Pinning and not pinning of Temporary Barrier – (Joe Larson & Dennis Manning)

Most of the barrier is installed by the bridge contracting industry. In particular, the inconsistencies that we are seeing with the designers on pinning and not pinning of the barrier. Some of the regions are starting to use a pinning item now and some are not. We are seeing plans and projects that we have constructed (staged projects) where the designer is calling out that the barrier be pinned into a new deck. Too me, this crazy to be drilling holes in a new deck as we all strive for the highest quality deck the day of the pour

- Various contractors would like a bid item for pinning of temporary barrier. The contractors would like the item to make a claim if there is a plan error or changed condition. Erik Emerson stated that the contractors should have a good idea on whether pinning is required and is not looking to change to having a pinning item. Laura Shadewald agreed that pinning on a bridge deck is not desirable, but in some cases may be the best solution for the project.

9. Temporary Barrier, what is acceptable – Held from March 2014 Meeting

- What is acceptable for temporary barrier gets debated in the field. "New" should not appear on the plans. There is guidance available to field staff to help determine what is acceptable.

10. Specification Changes / Updates – Discussion (Mike Hall)

- **Ancillary Concrete for Sign Structures - Updates to ancillary concrete for sign structures include additional allowance for applying loads when attaining a compressive strength of 3500 psi.**

Additional Items:

- Dave Kiekbusch questioned the group regarding pile encased piers. He stated that it is becoming popular in some regions to call for cofferdams for pile encased piers. This defeats some of the purpose of having pile encased piers. The contractors said that cofferdams are a waste and that proper concrete pouring techniques, most notably using pumped concrete, is key. Dave asked if pouring the concrete deeper would help keep suspect quality bottom concrete in an area

that was not important. The contractors warned against that idea as the DNR would likely not be real keen with removing more material to set the forms lower. NOTE: After the meeting Dave changed the standard for pile encased piers to not allow cofferdams. Marv Ruhland indicated that pouring deeper than 10 ft is an issue due to 12 ft maximum form height. This is an area where more guidance in the CMM may be beneficial.

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Attachments: