Bridge Technical Committee – Minutes
Wisconsin DOT, Industry, and Partners

Wednesday November 29th, 2017
9:30 – Noon
SW District office (Dane – Rock Rooms)

Subcommittee Reports:

1. **Bureau of Technical Services – Ready Mix Concrete Subcommittee**
   - **Discussion on Meeting and Pumping Concrete for Structures**
     Kevin McMullen shared a proposed resolution to this. When air is in question on project, contractor to make a request for additional cylinder cast that the QA/QV person would take possession of. DOT would tender to lab. Payment for testing would come from contactor. Need to work some details like type of curing and how to transport. Discussion at BTC meeting indicates that both FHWA and WisDOT support this and we are waiting for updated CMM language to this effect.

2. **Concrete Overlays Construction Equipment**
   - No updates to report

3. **Subcommittee on Structure Design & Construction – (Aaron Bonk) –**
   - BOS has reviewed the inspection reports for bridges containing alternative decking systems and is working with Regional Bridge Maintenance engineers to verify direction to allow these systems moving forward is acceptable. Final direction to be given at the Spring 2018 Subcommittee meeting.
   - Call for items for the March 2018 Subcommittee Meeting.

4. **Task Group to follow up on the FHWA's 2016 Bridge Deck Construction report (Joe Balice of FHWA).**
   - No updates to report

Standing Topics:

1. **IH 94 North South project** (Aaron Bonk)
   - Tentative April 2018 Let – includes 18 bridges and 15 retaining walls
   - August 2018 Let – includes 9 bridges, 4 noise walls, and 3 retaining walls
2. **IH-39 (Illinois – Dane County**) (Laura Shadewald) – Discussed that there will be 5 lettings starting in December 2017 into 2018 that will include 35 structures (Prestressed girder, box culverts, and sign structures)
3. **Verona Road (Madison)** (Laura Shadewald) – July 2018 is the next Let
4. **Wisconsin Highway Research Program (WHRP) Bridge Items –** (Bill Oliva)
   - Implementation –
     - Self-Consolidating Concrete for Prestressed Girders – Moving to Implementation on bridge for CY19 construction. November 2017 LET, IH-94 over 390th Street Dunn County, B-17-223. Single Span (126 foot) 54W.
   - FY2019 Projects –
     - Internal Curing of Bridge Decks and Concrete Pavement to Reduce Cracking

- Textured Epoxy Coated and Galvanized Reinforcement to Reduce Cracking in Concrete Bridge Decks

- Research Needs – TOC reviewing needs and opportunities

  http://wisconsindot.gov/Pages/about-wisdot/research/whrp.aspx

Previous Meeting Carryover Topics:

1. **Slump range for the drilled shaft portion of Standard Specification Section 636; Concrete Sign Supports. (Andrew Miller – Midwest Drilled Foundations & Engineering).** Often times we are drilling a 36" or 42" diameter hole by 12-18 ft. deep for the drilled shaft portion of the sign structure. Holding the slump to a 4" max on a drilled shaft does not allow for sufficient "flow ability" of the mix to provide the specified cover over the rebar cage.
   The department has put this on hold. Our recent internal discussions have led us to the conclusion that we are not comfortable with subcontractor potentially using poly carboxylate superplasticizer without proper oversight and testing.

2. **STD SPEC 509.3.4 Deck Preparation Type 1 and removal of portions of existing overlay (April Rieger) -** 509.3.4 (2) states that under Deck Preparation Type 1, "remove existing asphaltic patches and unsound bridge deck concrete." The item does not include removing existing concrete overlays. The item Cleaning Decks is used to remove existing overlays, but only if the entire overlay is being removed. If the majority of the overlay is remaining in place and is only removed in deck preparation areas, there is no item to pay for the overlay removal. The Standard Specifications should be changed to include concrete overlay removal in the Deck Preparation bid item, the plans should clearly state that concrete overlay removal is incidental to Deck Preparation, and/or a Special Provision item should be created to pay for the concrete overlay removal. Bill Dreher has created an STSP for "Removing Polymer Overlay" which should come out with the next release. This should be out before the end of 2017.

3. **Structural Backfill for Box Culverts (Matt Grove, Bill Oliva, & James Luebke).** Matt raised a concern about excavation limits and structural backfill on box culverts in recent letting. This will be a discussion on what the intent and standards reflect.

   Structural backfill quantities (plan preparations, measurement, and payment). BOS is moving towards recommending structure backfill be a pay plan quantity item. The intent is to reduce time needed for measurement, eliminate resolving quantity variations, and for quicker payment to the contractor. **James Luebke** is looking for input with this direction. There was quite an in-depth discussion and clearly no resolution at the November meeting. Some of the comments captured included:
   - BOS reached out to the DOT North Central States (NCS) to get insight to what others were doing in this area. 4 of the 8 NCS were using Pay Plan Quantity. Some of the NCS use structural Backfill as an Incidental Item.
   - Some contractors are concerned about the slope of the payment limit and what slopes OSHA may require for excavation. (BOS has commented that the excavation line and payment line may not coincide, and are related to the contractors means and methods).

- Matt Grove suggested that a limit on PPQ could be 3 feet from exterior wall and 1.5:1 slope. Matt believes this would promote a more accurate unit price for the item.

James Luebke will work with department staff to consider these comments and work to find an acceptable alternative. More discussion on this item at the March 2018 Bridge Technical Committee meeting.

4. **Designers to provide as-built drawings of existing structures at bid time for structures not found in the DOT database (Brent Freeman).** Notes on plan sheets describing the general structure are not enough and then when removals take place and there are new obstructions found, that are not representative of said structure, it creates delays to schedules and arguments between the DOT and the contractor as to what should be included in the contractor's rem General discussion on As-Built Plan availability including pre-existing. Generally, designers include plan note on existing structures. The department retains bridge information from HSIS when that bridge is taken out of service. If a designer or contractor needs information on a pre-existing bridge, BOS Development Section (Ryan Bowers) can help provide what information is in the system (View Bridge via HSIS). Contractors should provide pre-existing structure number as starting point.

New topics:

1. **Prestressed Girder Damage during deck removal – Bill Dreher/Aaron Bonk**

Bill Dreher ran through a short presentation that illustrated ongoing concerns with damage to top flanges during deck removals. The purpose of this item was to raise awareness of this issue. The discussion centered around how to avoid damage.

Bill discussed that the WisDOT ASP6 (effective with the December 2017 letting) would include

- Do not damage existing bar steel reinforcement, **girders**, or other components that will be incorporated in new work.
- After deck removal is complete, notify the engineer to **request a damage survey**. At the contractor's option, they can conduct a damage survey prior to deck removal in order to gain a baseline for the structure.
- If damage is identified, **the department** will determine if repairs or girder restoration will be allowed.
- If the department allows girder restoration…prepare computations and structural details required to restore girders to their **previous structural capacity**.

Bill also discussed the decision to repair vs replacement. This is a case by case decision. The CMM 5-28 Concrete Deck Overlays and Structure Repairs indicates that: (Project staff) *Contact **BOS Structures Design** if damage to steel or concrete girders occurs during deck removal.* We want to promote consistent evaluations and decisions.

2. **Crushed rock/gravel placed beneath abutments to improve work conditions (Dave Kiekbusch).** Our bridge maintenance engineers have an issue with slopes washing out in front of the abutments. They say this is causes primarily by wicking action beneath the abutments. The crushed rock/gravel is acting as a French drain. This is occurring at abutments that do and do not have expansion joints. The concept of removing the rock placed as construction platform under abutment to reduce the French Drain effect. There are concerns that this could add time and pose a risk to damaging the piles.

3. **Removal of Old Bridge – Michael Halsted – WDNR.** Under what circumstances the industry believes 203-015 should be used and how much money do we serve to save by using it over 203-020? The WDNR Liaisons are using 203-020 most frequently.

   - Michael said DNR Liaisons are using 203-020 most frequently. Michael is wondering under what circumstances the industry believes 203-015 should be used and how much money do we serve to save by using it over 203-020? If designers can show that dropping structure into waterway is not adverse, then DNR may be agreeable.

   - Better guidance needs to be given to designers. There are structure types where dropping bridge into waterway is difficult to avoid (Slabs and Trusses).

   - BOS will do outreach, perhaps at Structural Engineer Symposium.

   - Other issues that Michael has worked on in the past…The applicability of Section 526 Temporary Structures (CMM 5-65). This spec is thought to only apply to temporary structures used to re-route traffic (detours). I would like DOT to consider adopting a spec for a temporary bridge used for the purpose of construction. I believe our agency (DNR) will be okay with the provision in 526.

4. **Bridge IRI (Ride Quality) Specifications Jim Parry** Deb Bischoff is developing a Task Group to put together a spec for IRI Ride Quality to revise and update the spec. Grinding decks near joints may be an issue that needs to be addressed. Julie Brooks thought that perhaps taking the area around joints out of the data set.

5. **Discuss going to a ½" filler in front of the ½" bearing pads (Dave Kiekbusch).** Currently it is ¾" Preformed Filler and not as compressible as we think, resulting in girders sometimes bearing on the filler rather than the bearing. Dave Kiekbusch discussed issues that we have been experiencing with ¾" preformed filler placed in front of bearings. Some discussion on other construction materials that could be used. We are recommending going with ½" preformed filler in front of bearings to address this issue.

6. **Shop Fabrication Initiative Update (Kristin Revello)** Kristin discussed the Shop Fabrication Library and migrating all types of structure fabrication submittals to this SharePoint Site. The site is being migrated from DOT server to Department of Administration site. This may require users to update their log-ons.

   The Fabrication Initiative looked at our current process and made recommendations to review only a select portion of submittals. The library site will also provide status of submitted materials.

Standing Item - Specification Changes / Updates – Discussion (Mike Hall)

- Bridge Related ASP 6 (attached)

Addition to the Agenda:

Attachments

Bridge Related ASP 6

Bridge ASP 6.docx