

Bridge Technical Committee Minutes

March 21st, 2013

1:00 PM– 3:30 PM

SW District office (Dane – Rock Rooms)

Previous Meeting Carryover Topics:

1. Anchorage for Temporary Barrier (Tom Braun)

Follow up with the roadway standard people is required on this item. We will work with FDM and Roadway people to examine the SDD related to this item. (Hold to March 2013 Meeting) – The discussion related to anchoring temporary barrier to decks over the tops of girders and the pinning method. This may be especially difficult with the use of wide-flange girders. Tom Braun indicated that this was an area that should be studied. WisDOT comments indicated that designers need to be aware of this issue during design and look for appropriate adjustments. Also, there appears to be the need to look for alternative anchoring methods that would work with wide flange girders.

Subcommittee Reports:

1. Convening a subcommittee to develop a ride quality specification for bridges – Jim Parry – Jim indicated that from some of the Mega Projects, there has been identified the need to develop a ride quality specification for bridge decks. Jim was looking for volunteers. A number of people indicated they would be interested in participating including Tom Braun, Darrin Stanke. Also, there should be someone from Bureau of Structures and Regional Reps included.

Standing Topics:

1. North South Update (Laura Shadewald) – Rawson Ave. project SPMT move scheduled for June 14th, 2013 (10:00 PM – 10:00 AM)
2. USH 41 Update (Bill Dreher) – Letting May, July, August, 75 Structures
3. Zoo Interchange (Laura Shadewald) – Greenfield Avenue September 2013 Letting, 3 Major contracts.
4. IH-39 (Illinois – Dane County) (Laura Shadewald & Jim Lucht) – Letting start in 2013 through 2019, 100 Structures and 6 Rehabs. – See Attached
5. Verona Road (Madison) (Laura Shadewald & Jim Lucht) – March 2014 Letting
6. Hoan Bridge will be added to Updates – See Attached
7. Every Day Counts – EDC-2 (Initiatives) (Bill Dreher, Bill Oliva) – Contractors have voiced concerns about the cost of Accelerated Bridge Construction.
8. Wisconsin Highway Research Program (WHRP) Bridge Items – (Bill Oliva)

New topics:

1. Abatement of Asbestos bid item on structures plans – (Laura Shadewald)
Laura asked the question if Abatement of Asbestos bid item would be helpful on structures plans. Comments from a number of contractors indicated that this would be a helpful item to include on structure plans. Bureau of Structures will follow up.

2. **Acute Bar Bend Angles** – (Dave Kiekbusch) There has been some discussion on how we detail bars with acute bar bend angles. It might be worth asking our contractors if they have had any problems with bent bars fitting where they are supposed to.
There was discussion on how we detail bars with acute bar bend angles. Marv Ruhland of MSA asked his staff how MSA would detail the bar as shown in the sketch handed out at Bridge Tech. The reply was where would that happen? He discussed what he thought he heard others say at Bridge Tech, skewed abutment body, not sure other ideas for use were presented. He was reminded that at MSA we would normally square off that corner because their experience shows that this corner does remain unreinforced and many of these sharp corners end up breaking off. He asked whether that suggested squared off corner was in the standards. He thinks the answer was no. There are applications that include skewed diaphragms at abutments that would include acute bar bends. However, after discussion at the BTC, it appears there are no issues with how acute bar bends are detailed. Bars should be detailed out-to-out without the radius shown. One leg dimension should be shown. The out-to-out normal distance between legs could be shown,

3. **New Standard detail for the structure approach Aprons (Slabs).** – (Mike Hahn) One of the topics to discuss is how the new detail for the structure approach aprons are being handled. The new detail I am referring to is the one in which the approach aprons are put into the structure plans vs the roadway plans and now have concrete support slabs poured under the apron at the end away from bridge. (if you need an example let me know). These aprons are currently being treated as a bridge deck even though they are poured on grade, and they have the same 14 day wet cure as the HPC deck concrete. What we have been seeing is that some engineers are not allowing us to strip the abutment back wall forms until a minimum of 7 days after the deck pour due to their interpretation of the HPC spec about covering/cure. This doesn't allow for us to continue constructing the approach aprons in a timely manner and with the 14 day wet cure on it, the total cure time for the structure increase to 21 days. If the approach aprons have parapets on them, the total wet cure time can approach 28 days. This duration impacts the schedule for several other portions of the project that aren't being considered. It also has costs rising due to the amount of water that is needed to keep everything wet for this length of time. For a bridge project with these aprons using municipal hydrants with flow meters, it is not uncommon for the water consumption to be in the 1-3 million gallon range or \$10-\$20K with a low end municipal meter rate. There have also been erosion/washout and saturation issues around the structures with the extra length of exposure time. **– Based on the discussion about this item, the combination time element appears to be a problem. There is a request to look at the Specification for HPC used on the Sleeper Slab. In addition, the Regions need to consider this combination cure time element when developing plans and schedules for projects. –This item should be discussed at the BPD Monthly Design/Construction Conference Call.**

4. **Hat bars** (Darrin Stanke) – **Darrin indicated that the Hat Bars are very expensive. Darrin would like these to be generally paid for as a plan item. This also led into a discussion on the design multiplier for camber on Pre-stressed Girders. The question was raised if the multiplier being used was under estimating the camber. – Comments from Aaron Bonk of BOS Development Section: The following information is based on a Summary of the Prestressed Concrete Girder Camber Study that was performed between 2009 and 2011. In 2009, BOS began collecting data from the prestressing plans (Spancrete and County Materials). During the study, 622 girders were used and information from the plants, as well as in the field, was collected. From the data collected, BOS generated the camber multiplier which is equal to the field camber divided by the design camber. The data ultimately indicated a multiplier of**

approximately 1.5 should be used. However, based on past experience and the problems associated with overestimating the camber multiplier (i.e., underestimating the haunch weight near midspan due to minimum haunch increasing = increased haunch weight near midspan and potentially overinflated rating values, 'hat' bars likely being required near midspan, etc.), the recommended multiplier was 1.4. The multiplier is dependent upon many factors – span length, girder size, etc. – and thus, one multiplier will not exactly fit all locations

5. **Curing times for overlays (Darrin Stanke) – Section 509.3.9.3 of the Standard Specifications state the curing time for overlays is 3 days in accordance with 502.3.8, Upon completion of this cure period, Protective Surface Treatment is applied. Section 502.3.13.2 of the standard specifications indicates to seal no less than 7 days after the curing period expires. To summarize, you should not spray PST until 10 days after the deck is placed. If this is truly the intent, contract times need to take this into account. Most overlays have no other work to perform after the deck is placed. When a schedule is developed for overlay jobs, the time needs to have 10 days per deck pour added to the time estimate. For a half at a time deck, this is 20 calendar days where nothing is happening on the project.**
6. **Reporting “Recycled Steel Quantities for Bridges” annually– (Jim Parry) – Jim indicated that there was a desire to report on recycled steel quantities for projects. Much of the discussion centered on how much of the materials (rebar, girders, other) were actually recycled, saved for other uses, or wasted. Consensus was anything that could be recovered, re-used, or recycled was generally being done. Also, there was discussion on who would be the appropriate person to make the estimated of re-use of materials (design, contractor, or construction engineer). The discussion ended with agreement to talk off-line about potential ways to address this.**
7. **Specification Changes – Discussion (Mike Hall)**
 - a. **506.2.7 Welded Stud Shear Connectors (Mike Hall and Bill Dreher)**
 - b.
8. **Buy America clause in regards to movable bridges. (Darrin Stanke) - We continue to have problems with designers specifying products that are not 100% American made. – Darrin discussed the difficulty in incorporating some pre-fabricated control units (actuator) in moveable bridges that are subject to the Buy-American Clause that may have minor components that are foreign steel. The question of why actuators are included in the Buy American requirements. Two requests came out of the discussion, first, designers should work to ensure a specification for the actuators is workable and second, perhaps FHWA may want to consider whether the small amount of steel in some American produced actuators should be subject to the Buy American requirements.**

Additional Items:

1. **Use of Plastic or Rubber headed Vibrator (CRSI) – Jim Parry wanted to remind the group of the requirements to use Plastic or Rubber headed Vibrators to protect Epoxy rebar.**
2. **Top of Steel Survey Shoots of Girders for Deck Replacements – Discussion on the use of survey of top of steel girders before deck removal on re-deck projects. The question was posed about the practice of cutting holes in the deck prior to complete removal to get**

elevation of the top of steel girders with the deck dead load in place. This would be used to verify haunches on new deck to ensure appropriate profile was achieved on new deck. Contractors did not seem to have a concern with this practice.

Attachments:

(From: Jim Lucht): Attached are pdf documents of the Verona Road/West Beltline Interchange layout and the IH39 Corridor anticipated Let Date schedules. As you are well aware of, these schedules are subject to change by the Department. Any changes are particularly true with the IH39 Improvement because of the current status of the design activities.



I-39 Structure
Report - Monthly Let



Verona Road - West
Beltline Layout.pdf