

Bridge Technical Committee **Minutes**

November 15th, 2012

1:00 PM– 3:30 PM

SW District office (Dane – Rock Rooms)

Previous Meeting Carryover Topics:

- 1. The industry is looking for statewide consistency in the placement of bridge deck concrete. (Matt Grove / Tom Braun / Jim Parry)** In particular, the use of evaporation retarders or water in emergency situations. Please refer to Section 5.25.1.4.1 of the CMM – attached. I understand that the department no longer allows the use of evaporation retarder, but instead has allowed the use of water to close up deck surfaces in emergency situations. The Industry has been getting resistance from some Department Regions and or its Consultants to allow the use of water to close up the deck's surface. **There was a follow up discussion after the July 26th meeting with BTS staff (sub-committee) and Industry. We will ask for a report out at the November 15th meeting. It was noted that Jim Parry may have some historic documents on this issue.**
(From Matt Grove) A subcommittee of Industry and WisDOT met to discuss options for resolution. It was decided that the best way to address the situation was for contractors to inform project staff how they will handle finishing of the deck at the pre-pour meeting.
- 2. Payment for Ice (Matt Grove)** Industry is concerned that payment for ice is being written out of contracts or that Regions will not pay since it may not be a controlling item. There may be inconsistencies in how the Regions apply this provision. It was agreed that this item should go to the BPD State-Wide Construction Conference call for discussion. This item was included on the August 2nd, 2012 BPD Construction conference call. **There was considerable discussion on this item related to contingency plans, temperature control plans to schedule pours early in morning or at night. However, this may be an area where additional Department/Industry discussions need to take place.**
(From Matt Grove) Industry discussed the difficulty and cost associated with controlling concrete temperatures, Suggested that the temperature requirements be dropped by a few degrees and eliminated for substructure work. Further discussion about the savings to WisDot by including an ice line item and paying for it consistently when it becomes necessary. Contractors stated that the tight project timeframes make it very difficult to implement contingency plans and schedule changes around hot weather.
(From Bill Oliva)
Industry would like more consistency State wide. The Industry struggles with what this item costs them. This item needs additional discussion and follow –up at the BPD level.
- 3. 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)

Subcommittee Reports:

1. **Consistency in the placement of bridge deck concrete – See Above**

Standing Topics:

1. **North South Update** (Laura Shadewald)
2. **USH 41 Update** (Bill Dreher) –
3. **Zoo Interchange** (Laura Shadewald)
4. **IH-39 (Illinois – Dane County)** (Laura Shadewald & Jim Lucht) – (See Below Schedule)
5. **Verona Road (Madison)** (Laura Shadewald & Jim Lucht) –
6. **Every Day Counts – EDC-2 (Initiatives)** (Bill Dreher, Bill Oliva)
7. **Wisconsin Highway Research Program (WHRP) Bridge Items** – (Bill Oliva)

New topics:

1. **Protective Surface Treatment vs. Cure & Seal Compounds (Jim Parry)** What is the standard practices are on a statewide basis, both in the presence and absence of SPV's regarding parapet coating. Input is desired from the contractors what product types they are have been putting down in the field for deck and parapet coatings. Language adjustments to clarify which products should be used in which areas may be needed.

(From Jim Parry):

Products are being used properly. Protective surface treatments are being used on deck surfaces, and pigmented cure and seal compounds are being used on parapets when required.

2. **Pier cap reinforcement interfering with the vertical shaft reinforcement.** (Bill Oliva/Bill Dreher) Design noticed an issue in hammerhead piers where the #10 vertical column bars are running into cap bars. Are contractors having issues or problems with this?

(From Dave Kiekbusch):

The subject issue is not as big of an issue as cap bar/column bar interference on multi-columned piers, especially now with the greater amount of steel required in columns and caps. Also of concern is interference between cap bars and anchor bolts. Having sufficiently sized block-outs (i.e. 'cans') would be helpful. Designers need to be cognizant of cap bar conflicts.

3. **Pre-Girder Delivery Discussion** (Matt Grove) - Randy Hoyt discussed constructability review that was held at the TOC. Considerations should be given during design for the delivery, staging and placement of girders.
4. **Discuss 502.3.13.2 Protective Surface Treatment (Darrin Stanke).** The problem exists on concrete deck overlays. Section 502.3.13.2.3 states "Seal no less than 7 days, but preferably a minimum of 21 days, after the curing period has expired." On projects with 20 working days or less you are consuming 50% of the time on the PST. Time needs to be taken into account when establishing the length of these contracts or the 7 days as previously mentioned. Is there an alternative to PST as a cure and seal?

From Darrin Stanke:

The overall issue at hand is time. Plan authors are not taking material restrictions into account when establishing durations of projects. Until technology evolves beyond current limitations, we are not going to change anything procedurally.

Designers will attempt to take these time frames into account when determining completion dates. BPD needs to pass on to Regional Designers and Consultant Designers the issue of time needed to cure and apply Protective Surface Treatment for consideration in setting schedule.

From Mike Hall:

Proposed addition to FDM 19-10-30 "Contract Time for Completion (DT1923)":

Curing and protection of concrete. Include the contract time required to ensure concrete is sufficiently cured and has developed adequate strength to support subsequent construction operations without damage to in-place work. **Also include time required before bridge decks can be sealed.**

Proposed addition to 2014 standard spec:

108.4.2.1 Initial Bar Chart Progress Schedule

(2) In addition to the required activities, the contractor is encouraged to include other activities such as:

1. The procurement of materials, equipment, articles of special manufacture, **concrete curing times**, etc.
2. The furnishing of drawings, plans, and other data required in the contract for the engineer's review.
3. The department's inspections of structural steel fabrication, etc.
4. Third party activities related to the contract.

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108.4.3.2 Initial RBC Progress Schedule

(2) In addition to the required activities, the contractor is encouraged to include other activities such as:

1. The procurement of materials, equipment, articles of special manufacture, **concrete curing times**, etc.
2. The furnishing of drawings, plans, and other data required in the contract for the engineer's review.
3. The department's inspections of structural steel fabrication, etc.

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108.4.4.3 Initial CPM Progress Schedule

(2) In addition to the required activities, the contractor is encouraged to include other activities such as:

1. The procurement of materials, equipment, articles of special manufacture, **concrete curing times**, etc.
 2. The furnishing of drawings, plans, and other data required in the contract for the engineer's review.
 3. The department's inspections of structural steel fabrication, etc.
 4. Third party activities related to the contract.
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5. **Permits for crane work in the fly zone around airports (Darrin Stanke).** This needs to be done in the design phase, prior to bidding, not construction. Yes, no one knows what crane we as contractors are going to have on the site. A safe height would be 150 ft and will cover just about any crane we as an industry can work with. Going through the process to get the FAA permit is very time consuming, sometimes in excess of 45 days, and will ultimately affect a tight calendar day/completion date contract.

From Darrin Stanke:

The group pointed out this is not a new topic. Gary Dikkers has retired and the process appears to have fallen apart. The FDM is going to be reviewed. Designers will be reminded this study/permit needs to be in place prior to bid.

There were comments made that we should look at the Mitchell Special Provisions of an example of perhaps a good way to address this issue.

(From Mike Hall):

Initiate discussion of potential changes to FDM Guidance between the FDM engineer and the Bureau of Aeronautics. There may be little opportunity to expedite the process due to the lack advance information on the contractor's means and methods (crane size and location). Contractor's proposal to have designers assume that a 150-foot crane will be required for bridges built near airports will be passed on to Jerry Zogg of the Bureau of Project Development for a decision.

6. **Epoxy Overlays (Curt Pfeifer).** Had a couple smaller projects that had epoxy overlays on them. Spec states not to apply the overlay until 28 days after the concrete has been poured. On a smaller project, especially when the approach slab is suppose to get overlaid also, there isn't 28 days left in the contract to wait that long. Same thing on the concrete staining on smaller projects. A few local managers have the idea that these must be completed within the contract time.

(From Curt Pfeifer):

Sounds like the best solution is to make the designers more aware of the time and weather restraints to perform this work. Temperature restraints may push the work over to the next spring so temperatures are warm enough for the epoxy to cure. While this has been done in the past, designers/project managers/ project leaders need to remember this also creates the need for temporary traffic control and also another mob for pavement marking after the work is completed, and it's a matter of time before somebody in control feels the department shouldn't have to pay for this. It was also brought up of perhaps using other products that meet the departments epoxy specs that have more favorable temperature requirements. I didn't check all available products on the market yet, but from what I found so far is these other products do cost more (25%-36%), so unless the contract specifies a different product, I'm guessing contractors will be quoting epoxy and expect to get paid more if a different product is requested to be used at the time of application if this work is desired to be completed during the late end of the construction season.

7. **Discussion of a girder pre-setting meeting (Mike Hall) - attached is preliminary CMM guidance**

(From Mike Hall):

Randy Hoyt will pursue his proposal for possible future inclusion of a pre-setting meeting for girders in the CMM. After discussion it was decided Randy should include coordination with the development of the Traffic Management Plan and that some of the items proposed should be dealt with in advance by designers. Randy will split his proposed guidance into a component for inclusion in the FDM and a component for inclusion in the CMM. Please send questions and/or comments to Randy at Randall.Hoyt@dot.wi.gov .

**8. Specification Changes (Mike Hall) - Attachment
(From Mike Hall):**

An updated list of spec changes for the 2014 standard spec was presented. Among those changes was a fast track proposed spec requiring contractors to have a department-certified team leader inspect temporary bridges. Contractors were given until Monday November 19 to comment on the proposed language. No comments were received so the language below will be included in all contracts beginning with the January 2013 letting.

526.3.3 Temporary Structures

Replace paragraphs two through four with the following:

- (2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.*
- (3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in [203.3.4](#). Contractor-furnished materials remain the contractor's property upon removal.*

Associated CMM guidance will be developed for publication no later than the spring 2013 CMM release.

Additional Items:

- 9. CYA Language (Tom Braun) Discussion on this item.** There will be additional language placed in the Manual to address this.
- 10. MSE Walls Updates (Bob Arndorfer)** There are three MSE retaining wall updates I want to bring to the attention of the retaining wall contractor community. They are:

Chemical Testing of Granular MSE Wall Backfill

WisDOT MSE walls have specifications for chemical properties of the granular backfill materials. These chemical requirements include limits on pH, sulfate content, chloride content and electrical resistivity and apply to modular block, precast concrete panel, wire-faced panel and CIP-faced MSE walls using metallic reinforcement. MSE walls are designed to last 75 years, based on a certain corrosion rate of the metallic reinforcement. If this corrosion rate increases due to more corrosive backfill materials, this design life may be compromised.

The MSE wall specifications require material lab testing to be completed prior to incorporation of the material into the wall. Typically most granular materials in the state can meet these requirements. Recently there appears to have been some MSE walls constructed where the backfill material was not tested timely and/or did not meet the chemical requirements. To reduce the potential for similar problems in the future, the Department wants to reinforce the need for completion/passing of all specification testing, prior to use of these backfill materials.

MSE Wall Specification Re-writes

The Department is currently in the process of slightly modifying the MSE wall specifications to include provisions for QMP of nuclear density testing of the retained backfill material. This is being done to address the FHWA requirements that a quality management program is necessary when the Department elects to use contractor testing for acceptance. In addition, the rewrite will include modified language to increase the rate of chemical backfill testing for walls with larger volumes of granular backfill usage. The goal is to complete this language for insertion into projects being designed in early 2013.

MSE Walls Used for Temporary Shoring

Sometimes contractors are using MSE walls for temporary shoring applications. These applications are designed by the contractor (stamped by PE) and little design guidance is provided by WisDOT. Recently there have been a limited number of projects where these contractor-designed walls have not functioned as intended, causing reconstruction and additional cost to the contractors. Generally these problem temporary applications have been exposed wrapped face walls incorporating fine-grained (non-granular) soils for the MSE backfill material and/or geogrid products for reinforcement. Fine-grained soil backfills are susceptible to decreased strength when saturated, often leading to excessive wall movement and/or settlement. In addition, there appears to be little design guidance on incorporating these types of cohesive backfill materials into standard MSE wall design methods. In comparison, WisDOT MSE wall designs do not allow fine-grained (cohesive) materials to be used in the reinforced zone in permanent wall designs.

Although these shoring applications are contractor designs, the Department wants to ensure that contractors are aware of these potential issues and address them in temporary shoring designs incorporating MSE walls. In addition to the potential for increased contractor costs due to redesign/reconstruct if problems occur and the potential project delays and impacts, we need to ensure that these temporary shoring applications are safe for the travelling public and construction personnel.

Thanks for communicating this to the wall contractors. I am available if more detailed discussion is needed.

Bob Arndorfer
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Attachments:

IH39 Corridor Improvement in Dane and Rock County.
From Jim Lucht – AECOM
November 2012 Bridge Technical Committee Meeting

Information Subject to Change (WLO)

I realize the bridge contractors always like to have picture of what is coming their way in regard to WisDOT lettings. The following represents the current letting schedule for structure related work associated with the IH39 Corridor Improvement in Dane and Rock County.

Calendar Year 2013

Monthly Let Date – May 14, 2013

- Project ID 1003-10-70, ITS Advanceable Sign Structures
 - S-13-190 -- relocation of cantilever sign structure
 - S-13-408 -- Butterfly structure
 - S-53-73 -- Butterfly structure
 - S-53-74 -- Butterfly structure
 - 5 Roadside sign structures
- Project ID 1001-03-74, E. Racine Street (STH 11) over IH 39
 - Structure B-53-329

Calendar Year 2014

Monthly Let Date – February 11, 2014

- Project ID 1005-10-73
 - Structure B-53-65
 - Structure B-53-73
 - Structure B-53-75
 - Structure B-53-77
 - Structure B-53-80
 - Structure B-53-85
- Project ID 1005-10-74
 - Structure B-53-360
- Project ID 1005-10-75
 - Structure B-53-360

Monthly Let Date – March 11, 2014

- Project ID 3070-00-72
 - Structure C-13-TBDa

Monthly Let Date – May 13, 2014

- Project ID 5966-10-70, Alternate Route CTH G, Rock County
 - Structure B-53-20 (existing bridge)
 - Structure C-53-8 (existing culvert)
- Project ID 3070-00-73
 - Structure B-13-358
 - Structure B-13-359
 - Structure B-13-TBDa
 - Structure C-13-105



Bridge Tech Review
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CMM for Girder
Pre-Setting Mee...