Bridge Contractors / Caltrans Liaison Committee Meeting Minutes

Friday, March 21, 2014

TIME: 10 a.m. to 1:30 p.m.

LOCATION: California Department of Transportation
Transportation Laboratory
5900 Folsom Blvd, Sacramento, CA

COMMITTEE PURPOSE: *To establish a liaison between Caltrans and the California bridge contracting community focused on structure related items of mutual interest. To maintain an on-going dialogue on pertinent issues and pursue action items in a collaborative effort to improve bridge construction in California.*

COMMITTEE MEMBERS: Industry Members identified by the AGC, SCCA and UCON

MEETING CALLED BY: Rob Stott **TYPE OF MEETING:** Committee Meeting

FACILITATOR: Dennis Wilder / John Weldon **NOTE TAKER:** John Babcock

ATTENDEES: See attached list

HANDOUTS PROVIDED: Revised Standard Specification (RSP) – 50 Prestressing Concrete
Falsework Update
RSP – 11-4 Cast-In-Place Structural Concrete Materials
California Test 342 – *Method of Test for Surface Skid Resistance with the California Portable Skid Test*
Clear Cure on Architectural Finishes
CRACK-Less Concrete Bridge Decks™

MINUTES POSTED AT: http://www.dot.ca.gov/hq/esc/construction/br_contractor_outreach/Mar2014/MtgMin.pdf

#	TOPIC	PRESENTER	PURPOSE
1.	**Welcome and Self Introductions** Group went around the room and introduced themselves and affiliated organization – see attached attendee list	Dennis Wilder/ John Weldon	
2.	**Opening Remarks and purpose for meeting** • This is the 4th meeting and we have held them every 6 months as a means of continuing the discussion. These meetings present an opportunity to share changes, proposed changes to ensure that implementation is smooth and seamless. Together we are making steady progress but, would like to move faster. I see these as an opportunity to improve how we do business together. The minutes/notes are shared with the AGC / UCON / SCAA at the statewide meetings. They are interested on what we are doing.	Rob Stott	

#	TOPIC	PRESENTER	PURPOSE
	• Workload is coming down as bond dollars are used. Bond dollars were a huge shot in the arm, in a couple of years we expect the structure work will drop off significantly. We are watching Congress to see if funding opportunities develop and to ensure that the Highway Trust Fund/Highway Account remain solvent. • Rick Land, Chief Deputy, is retiring after 36 years with the Department. Rick had also served as the Chief Engineer and the Chief of Structure Design.		
3.	**Updates on Previous Topics:** Prestressing Falsework QC/QA Structural Concrete Skid Testing		
	Prestressing – Both the Post Tensioning Institute (PTI) and the American Segmental Bridge Institute (ASBI) have asked Caltrans to revise Section 50, *Prestressing Concrete*, of the Standard Specifications to match or better align with the specifications their organization writes in order to nationalize the specifications. Outreaches have been held with Swagger-Davis and DSI and specification changes have been developed. In addition, Caltrans has looked at a small number of bridges during demolition and are mostly satisfied with what has been found. There have been some pockets of water or air at the top of ducts. Caltrans will make some changes to the specifications to strengthen our quality assurance. Specifications since July 2013 require additional information after the work starts such as: • A grouting plan to ensure tendons are fully grouted • Pressure testing after stressing; suggested that the pressure testing be performed before deck is placed • Additional vents at high points and on each side of the high point • Permanent grout caps - as that has become a potential corrosion entry point • No flushing for blockages but moving to next vent and coming back • Pressure testing after stem soffit pour would be prudent but it is not part of the specification. Not moving to prepackaged grouts at this point. Prestressing subcontractor performed air testing of the ducts on a project without the new specification (did not require air testing) and discovered leaks which turned out to be communication between ducts; the sub was able to grout both ducts simultaneously to address the problem.	Ken Bocchicchio	

	Falsework – Presentation posted at: http://www.dot.ca.gov/hq/esc/construction/br_contractor_outreach/Mar2014/Falsework.pdf **Discussion on proposed new Falsework Removal Spec:** • Industry questioned whether a height threshold like 20 feet could be set where removal was not required. • Industry comment- need to start the 60 day clock –"After the work is complete." • An example was provided to illustrate how the wording of the spec may need to be re-evaluated. If you have a project with 3 bridges and one bridge is complete do we need to remove the falsework even though 2 bridges are still being constructed? • It was suggested the word "Release" may need to be revised. • Industry is looking for some flexibility in the falsework removal specification. • Need to look at the language to see how it works if a bridge is being built in stages. • Industry member felt it was truck drivers not abiding by their permit that is the cause of most of the high load hits of falsework. • Industry input suggested the specification be written with the addition "as per the engineer" in making exceptions to the 60 day threshold and then provide guidelines to staff in evaluating exceptions. • How does contactor know the heights of the adjacent existing bridges? Answer can get that info through the RE or SR making an inquiry to the Permits office or look to see what is posted on the bridge. • Sometimes like on Hwy 99 the closest adjacent bridge may be many miles away and it may be considered an out of sight out of mind. • Can the specification just address the stringers and those portions of falsework over the roadway? • Sometimes the falsework needs to be left up longer because it is used as the platform to do things like applying stain to architectural treatments. **Discussion on stability during jacking:** • Input- Appears to already be addressed in current Specifications **Falsework Review Question by Industry-** Industry asked for a clarification on Ajay's role in providing consistency and if he should be called if they are having disputes on falsework issues. Answer was he is a resource but disputes need to be run up the escalation ladder and if necessary the ACM gets involved in resolving. When asked if there is a noticed difference between the falsework review by State Staff and CT Consultant staff, Industry responded that the consultants provide a more conservative design	John Babcock	

	review.		
	QA/QC Structural Concrete Presentation posted at: http://www.dot.ca.gov/hq/esc/construction/br_contractor_outreach/Mar2014/QAQC Structural Concrete.pdf Issues encountered: • QC personnel lack authority to reject material • Inadequate number of QC testers on large pours • DIME (Data Interchange for Materials Engineering)working well – users need more training • ACI certification difficult to schedule and manage • Availability of AASHTO accredited laboratories Refinement and Statewide implementation by January 2015 Comments on the specification (11-4 Cast-In-Place Structural Concrete Materials) that was distributed: • 11-4.02A will list comparable test in section 90 • 11-4.02B Quality Control Manager - The statement for the requirements of the QCM should add "at least" to prevent it from being read too conservatively. "QCM must have (at least) one of the following" • Within 3 hours reflects the desired responsiveness of the QCM, do not expect the QCM to be on every pour. The QCM's role needs to be clarified to ensure they reject material as a result of a failing test.	Craig Knapp	
	Demonstration of Skid Testing Machine Specification requires skid test (coefficient of friction California Test 342) on new pavement, polyester and methacrylate; problem is 5 skid test machines available and they were built 1960 – 1962. The goal is to have the contractor perform this test using machines that they have built. Caltrans/METS has re-engineered the original test machines and will make the plans available so that a competent machine shop can fabricate a machine and a calibration plate. Expect plans for skid test machine to be completed in late July, modify test method, takes 30-60 days, $10K-16K in cost at the machine shop used by METS. Demonstration of the "new" machine was performed in the parking lot. General questions asked: • Calibration would probably be twice a year to start since it is new • Machine and calibration plate will be matched as a pair • Wearing parts may have to be replaced every two years, depending on use, but this is speculative at this time. Interim On a constructed test area the coefficient of friction will be tested. The test area will be used as a reference sample and visually make decisions of the production work based upon the test area. The	Joe Peterson	

	Engineer can call for a test on production work if a question arises. Issue CCO's for projects that have not started production. An additional interim measure will include the Sand patch test (demonstrated at the September 2013 meeting). A specification is being developed. Training would be offered in three locations (Sacramento, northern and southern CA) Ultimately for coefficient of friction testing the new skid test machine or ASTM machine will be in the specification. The ASTM machine is commercially available and contractors will be provided the plan for the skid test machine. Will be used for all concrete surface testing: roadway and bridges. The sand patch test is a measure of the amplitude of the surface and can be used to verify tining. Once the logistics of the test are fully developed, Caltrans will start applying the sand patch test to polyester overlays and eventually to all bridge decks. Audit results of testing? IQA of our own, record of the certification of the skid test machine.		
4.	**Open Discussion – new topics to consider** Clear cure on Class 1 finishes – There is a need to develop a specification for architectural concrete. Forming, stripping, and curing is covered in multiple specifications. The sections include: 51-1.01D(3) *Test Panels*; 51-1.03C(2)(b) *Removing Forms* allows removal after 24 hrs – 51-1.03 Concrete Surface Textures covers curing methods, forms in place or water methods. 51-1.03G(2) *Form Liners* covers release agents and that liners must remove cleanly. 51-1.03H *Curing Concrete Structures* requires curing structures by the water or forms in place methods per section 90, can use pigmented curing compound Applying this to architectural surfaces is all over the place Need a specification for forming and stripping walls depending on architectural treatment. The time to remove forms with architectural treatment is dependent on concrete strength. Proof of concrete strength, getting strength in 18 hours, average height 16' say 16-18 hours, 750 psi needed for the wind load. Specify oil and release agent good. Take a form off, spray it with clear fugitive dye curing compound. Curing compound ok on the back side, with what the industry offers it makes sense to use a clear cure. Water curing is an ancient method, but with current SWPPP it becomes cumbersome. With winds and rugs flipping there are safety concerns, drives costs up. Safety, Quality, Cost, Schedule The comment from the co-chair was that you would bifurcate the	Butch Parker Rados Construction	

	architectural treatment curing from the general specification? Don't know what the architectural treatment will be. Cost of water cure is difficult since it is dependent upon the weather. Drought may also factor into the cost. Removing forms in the night where the temperature may be different could shock the concrete. Lacalle – capture and submit your concerns so it can be carried to the Concrete Committee within the Division of Engineering Services. Test panel – will this be acceptable? General comments / discussion: Compounds that dissipate in 6 to 60 days. Took a section of wall and tested it. Monitored up through final finish. Consider specification for shot-crete also, same issues. Sculpted surfaces, tunnel repair. Cycling of forms, time to strip. Early removal causes damage, leaving them on too long causes damage also. As approved by the Engineer. Can't beat a form cure, water is the next best, Cities allow it. Take cores on test panel to ensure strength. 1000 psi seems to have worked to protect the surface when stripping. Curing compounds meet ASTM air resource board requirements. Spraying cure would probably happen quicker than rugs and water. Compounds applied with power agitated sprayer. Test panels match orientation of in-service walls AIA specification could be used as a reference Barton –quantification of benefits to the state. Lots of specifications being proposed but what sets this one above the others? Schedule, costs, better competitive bid. **ACTION ITEM -** Butch taking the lead to provide the key elements that they would like to see in a draft specification for review at next meeting.		
5.	**Crack-less Bridge Deck** Presentation posted at: http://www.dot.ca.gov/hq/esc/construction/br_contractor_outreach/Mar2014/Crack-Less_Bridge_Decks.pdf Questions: Trend is for fly ash content to be between 15 and 25%, we noticed more cracks? A – Increasing the use of fly ash reduces the carbon footprint, goal is	Sonny Fereira	

	to reduce the energy going into a product. Important to know the material you are using. Fly ash does have long term benefits. There are moves to get to 50% - The use of fly ash helps mitigate ASR (Alkali-Silica Reaction) in concrete but you can test the aggregates to reduce the amount of fly ash required. Are cracks due to wear and tear? Is there a wear and tear factor? A – Truck loadings etc. do have an impact		
6.	**Open Discussion** **Architectural Treatment -** Corridors with architectural treatments are supposed to look the same. Different suppliers, lots of costs to get the architect to come down and look at it. DJW – Are you suggesting that we list the liner as a sole source? RAS - state and federal law prevents us from sole sourcing, requires a waiver from a District Director or the Chief of the Division of Engineering Services but hard to do since they are bound to enforce the law. The contracts usually list multiple suppliers. KJB – aesthetics committees are the locals and they try to make them unique. Form liners are becoming a critical path item. Often times architectural committees are formed long before the job and unable to reconvene after the project is awarded. - CT should list a form manufacturer with a fixed price – something that is done with attenuators. – This is not meant to undermine competitive bidding. **Longitudinal tining –** Comment on the use of longitudinal tining vs. grind and groove; seems like Caltrans is moving away from allowing longitudinal tining? A – For projects or locations within projects that have been identified as needing noise reduction and other noise mitigation measures are not feasible the deck texture will require grind and groove else it becomes an option. Average bridge project will most likely provide a choice, but in urban areas the District may be requiring a quiet environment.		
7.	**Recap** • Minutes will be posted and emailed to attendees • Next meeting in Southern California, September 19, 2014, Fontana • Co-chairs will be: Dennis Wilder, ACM District 11 John Weldon, Atkinson Construction. • Will continue to provide prereads, generally in a sufficient amount of time ahead. • Continue with the invite from Outlook The following action items were captured during the meeting: Falsework Removal specification Various guidance items Meeting of advisory team in August Coefficient of Friction Implementation of changes related to test areas for		

	methacrylate and polyester concrete Finalize plans for skid testing machine and sharing Clear cure Industry to provide comments regarding needed specification for clear cure to CT		
8.	**Future Agenda Concepts** Clear cure / membrane cures for architectural treatment – continuing discussion Falsework – Specification for removal – continuing discussion Coefficient of Friction – continuing discussion Design Information Bulletin - an update Form liners – sole source – State law Be more selective on when a PE is required to be in the field for an operation Shoring – For the falsework advisory team – A PhD that has been teaching FCI, have him produce a presentation.		