

2008 Bridge Construction Forum

Industry Comment	Resolutions
<p>Reduce the time it takes to review and approve pile repair plans. If it's only an administrative deduction, why is it taking so long to approve?</p> <p>Change specifications to specify time of review of mitigation plans.</p> <p>Tuesday – Thursday is the norm for gamma-gamma logging testing days in southern California because of travel. Keep equipment local.</p>	<p>New specifications will require a determination whether a repair is required or an administrative deduction will be imposed within 35 days from the date of GGL testing request. Expected to be in contracts released by Spring 2009.</p> <p>Revised specifications will specify a 20-day review period of the pile mitigation plan Under consideration: Further reduction in review time if Standard Caltrans/ADSC CIDH Pile Mitigation Plan is used.</p> <p>Gamma-gamma testing is performed every working day (Monday to Friday)</p>
<p>Contractors want to perform their own crosshole sonic logging (CSL). Include in special provisions that contractor does CSL if additional information desired beyond gamma-gamma logging test results.</p> <p>Change acceptance testing from gamma-gamma logging to crosshole sonic:</p> <ul style="list-style-type: none"> • Eliminates time lag between GGL and CSL resulting in less de-bonding because the test will be performed more timely, reducing delay. <p>Use crosshole sonic logging (CSL) as method to estimate deduction.</p>	<p>Nothing in the contract prevents contractors from doing their own testing, including crosshole sonic logging (CSL). However, gamma-gamma testing will remain the only contractually acceptable pile testing method. CSL results shall not be considered as substitute for and in lieu of gamma-gamma testing.</p> <p>Gamma-gamma testing will remain the only contractually acceptable pile testing method. CSL testing cannot detect anomalies outside the rebar cage.</p> <p>CSL however, is being performed by Caltrans or the contractor for reduction of the size of the anomaly (when applicable) and determination if the anomaly needs repair or not.</p>

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<p>Type 1 (continuous cage) and Type 2 pile/columns (two separate cages) design details: Two overlapping cages does not allow for 5" windows for concrete aggregate to pass through. Details also needs to address construction joints and the use of CMP/steel casings.</p>	<p>As of November 2007, a construction joint is allowed in Type 2 piles with the casing extending 2 feet below the top of pile. It is recommended to limit the splice overlap to twenty feet.</p>
<p>Review the concept of increasing concrete cover to 6 inches.</p> <p>Place inspection tubes on the outside of cage.</p>	<p>Caltrans has conceptually accepted increasing the concrete cover based on pile diameter. Caltrans is awaiting approval by AASHTO.</p> <p>Not acceptable. Placing these pipes on the outside of the cages will expose the pipes to risk of being damaged during handling. It will impact the ability to perform CSL testing if needed, and lastly generate the risk of identifying false anomaly by gamma-gamma because of the proximity to the surrounding soil when the concrete cover is less than 6 inches.</p>
<p>CIDH/Rebar (as part of CIDH). One pay item for Type 2 (shafts). Type 1 – no change to item because of guying.</p> <p>A method to pay % complete of pile:</p> <ul style="list-style-type: none"> -To cutoff or splice zone -Type 2 -Schedule of values -Some projects don't pay until the pile is complete, including the splice zone. 	<p>Caltrans will not pursue this proposal as ADSC members, at the September 24th Caltrans/ADSC committee meeting, were not able to reach an agreement to recommend a separate pay item for the CIDH rebar cage. The concern was that this change may end up being an issue with the labor union and may create a conflict by having two rebar subcontractors on the same contract.</p> <p>A draft proposal has been prepared and will be presented at the next Caltrans/ADSC committee meeting.</p>
<p>10x aggregate max size to rebar openings. Specify only 1/2" or 3/8" aggregate for concrete for CIDH piling. Currently, there are options, but it is more expensive to use the smaller aggregate.</p>	<p>ADSC/Caltrans Executive Committee has reached agreement to eliminate the use of 1" aggregate for wet piles. Only 1/2" or 3/8" aggregate are allowed.</p>

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<p>Include CIDH pile design criteria on contract plans (similar to driven piles). Contractors want to see moment demand charts on the plans.</p> <p>Locations of inspection tubes are not shown by designers, but left to contractors to submit for approval.</p> <p>Criteria for using oscillators.</p>	<p>There is no agreement on the need to put the design criteria on the plans. However, Structure Design will develop guidance for its engineers to speed up analysis of piles.</p> <p>Memo to Designers 3-1, dated July 2008, requires the inspection tubes be installed as shown on the plans.</p> <p>Geotechnical Services is in the process of developing guidelines that will address the use of oscillators and rotators for possible implementation on future a new special provision.</p>
<p>Administrative deductions for anomalies – multiplication factors unfair. Sometimes the deduction is driving decisions to repair and is worse than leaving it alone.</p> <p>Who owns the specification on deductions?</p>	<p>Pending action by ADSC/Caltrans Executive Committee.</p> <p>The specification owner is the DES Structure Office Engineer. The Division of Construction reviews and approves all specifications to ensure consistency with the Department's administrative policies.</p>
<p>Self-consolidating concrete (SCC) research..</p>	<p>The ADSC/Caltrans Executive Committee has begun looking at this. A joint workshop on self-consolidating concrete was held on March 13, 2008.</p>

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Force account rental rates for pile equipment are not enough.	Contractors brought this up at the statewide liaison meeting with AGC. The following website has FAQs and Rental Rate Books: http://www.dot.ca.gov/hq/construc/equipmnt.html ." This site provides a process for requesting a review of published rates.
Perform load testing for large diameter CIDH w/ a separate contract in Phase 1 to complete pile design.	A suggestion to deliver to design. Constructability feedback forms are being modified to incorporate consideration of Phase 1 of pile load test where possible.
Prequalification of contractors.	This item is out of the scope of DES responsibilities. The item has been referred to the Division of Construction through the ADSC/Caltrans Executive Committee and DES Substructure Committee. Action is still pending.

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Sand jacks. Incorporate into <i>Falsework Manual</i> .	<i>Falsework Manual</i> revisions are being developed.
Column guying and cage rigidity. (Safety) Research project for guidelines and when to use crane support.	Research project is underway. Need to research Cal/OSHA.
Develop best general practice of the industry to include the shimming of falsework during jacking operations.	Take existing bridge jacking specification and apply to falsework jacking. Incorporate into <i>Falsework Manual</i> or maybe put in a specification.
Setting joists and plywood over traffic – the policy is inconsistent (maybe with consultant structure representatives). Contractors prefer to lay the soffit out in the day.	New Bridge Construction Memo (BCM) is drafted and to be circulated Office of Structure Construction staff.
Traffic openings, structure plans, traffic handling plans, and special provisions not in agreement.	Constructability issue. Constructability guidance and checklists are being revised to address this.
Develop CT/Industry joint falsework training for contractor’s designers and OSC’s engineers. Note: Contractors would like to sit in on our falsework training.	Develop with industry volunteers working with the CT/Industry Falsework Advisory Team and the OSC Falsework Technical Team to explore if this is feasible. Has been presented to team but has not moved forward.
Deflection of T-beam requirement.	Falsework memo will be developed explaining the allowable increase, which limits the deflection of the longer span to no more than the deflection of the contract required span length for T-beam bridges.
Seniors need to review rejection letters before sending out.	Discussed this with OSC staff. This will also be reiterated at the 2009 Winter Training.
Determine if adding history or commentary to specifications or requirements in <i>Falsework Manual</i> would be beneficial.	Falsework Manual already includes commentary on falsework specifications along with examples and footnotes. Will be referred to the Caltrans/Industry Falsework Advisory Team.

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<p>Review the use of cable bracing; determine if there is a way to make the use of cables safer and to lessen incidents using cable especially at traffic openings. Hard bracing (no cable) – load redistribution.</p>	<p>The issue was referred to the joint Caltrans/ Industry Falsework Advisory Team and industry team members has not been able to reach a resolution. The team will continue to examine the issue.</p>
<p>Traffic openings: Time window – bigger the better. Reducing the number of lane closures = saving lives.</p>	<p>Research underway to determine optimal traffic time windows to allow construction of falsework over traffic.</p>
<p>Update <i>Falsework Manual</i>: Timber design values: horizontal shear – NDS up to 215 psi; AZ at 125 psi. Bending stress.</p>	<p>After due consideration, it was decided to continue the use of current timber design values. The current allowable stresses best represents the grade and quality of timber currently in common use on most projects.</p>

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<p>More improvements on Cost Reduction Incentive Proposals (CRIP) process in the design review process.</p>	<p>To expedite the technical review of structure related CRIP, Caltrans' Division of Engineering Services implemented a Decision Document in (March 2007 – need precise dates) outlining the new CRIP process – posted on this site.</p> <p>In a further effort to seek improvement in the contract administration of CRIPs, Caltrans' Division of Construction has formed a CRIP team with AGC, SCCA and EUCA to jointly examine the CRIP process and recommend improvements.</p>
<p>Bridge surveying needs improvement on consistency.</p>	<p>Get the updated Bridge Construction <i>Surveying Field Guide</i> on the OSC Internet website. Continue training OSC staff on bridge construction surveying.</p>
<p>Consistency in providing 4-scales for bridge widenings.</p>	<p>Developing a new Bridge Construction Memorandum on generating 4-scales for bridge widening. Developing training course for generating 4-scales for bridge widenings.</p>
<p>Eliminate grease from bearing pads for precast girders.</p>	<p>Review Standard Plan detail and discuss with designers.</p> <p>Memo to Designer 7-1, 1994, Bridge Bearings, states that sheet metal/ silicone grease is only used to facilitate the 50% of the anticipated prestress shortening associated with CIP/PS structures and not intended to be used with precast girders. The situation cited was either a design anomaly or a misinterpretation of the contract plans by field personnel. No action recommended.</p>
<p>On bridge widenings, there is no uniformity on grinding. Who pays for closure pour grinding?</p>	<p>Drafting a Bridge Construction Memo to provide guidance to staff to grinding of bridge deck surface of bridge widenings.</p>
<p>Not uniformly enforcing fall protection. Controlled access: contractor has it on safety plans. Soffit and stem pours.</p>	<p>OSC Code of Safe Practices updated to include guidance on “controlled access zones” practices and procedures - posted to the OSC internet website. Discussion with staff on BCM 14-7.6 on fall protection and ensure that contractor's have a plan.</p>
<p>For plans giving the option of precast I-girders or precast bulb tee girders, increase the bearing pad width for the bulb tees.</p>	<p>Working with Structure Design Services to update Memo to Designers 7-1 to address this concern.</p>

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<p>Form liners: Specifications are different. Use a couple of standard ones. Avoid oddball sizes (rib depths) they are hard to find. Give a range of acceptable rib depths. Use standard sizes. For PVC, use in between thickness – not the single use \$2 sq/ft</p>	<p>Currently being discussed with Caltrans' Bridge Aesthetics unit.</p>
<p>More uniform column forms.</p>	<p>Currently under discussion with Caltrans' Bridge Aesthetics unit.</p>
<p>Stripping forms (with form liners and detailed aesthetic features). Strip in less than 24 hours</p> <p>Curing compounds with a fugitive dye that forms a membrane and dissipates in 60 days. Then it can be lightly whip blasted for the class 1 finish.</p>	<p>Under research. Will provide update on future postings.</p> <p>Under discussion. Updates will be provided on future postings</p>
<p>Eliminate 'outies' on retaining wall aesthetic features</p>	<p>Being discussed with Bridge Aesthetics unit</p>
<p>Safety rigging embeds on precast girders and impalement protection should be an industry standard.</p>	<p>Contractors need to comply with OSHA and take measures in discussions with precasters.</p>
<p>No cap on wall. It takes a second pour.</p>	<p>Being discussed with Bridge Aesthetics unit</p>
<p>A 2" laminated bearing pad is not 2" thick, it is thicker. This can cause problems with formwork design and rebar detailing.</p>	<p>See BCM 135-3.</p>

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Is there a way Caltrans can accelerate the delivery of steel pipe piles?	Based on input from industry, Caltrans has draft specifications that will accelerate product shipment by implementing an audit for qualified piling fabricators. The new specification is scheduled for implementation by the end of 2008.
Anchor head systems used for tieback walls are subject to the same test criteria for prestressing systems in Section 50 of the Standard Specifications. In many cases these systems were qualified many years ago. Can Caltrans provide a system acceptance qualification specific to tieback anchor systems, soil nails, and rock anchors? Can this be published on the prequalified list?	Caltrans is currently reviewing the qualification, testing, and acceptance of these systems.
High strength threaded rebar – What is the qualification process? Threaded bars for tiebacks – What is the process for qualification? We would like transparency on qualification process.	
There is a facility audit requirement for precast concrete, overhead sign structures, and lighting pole fabricators. Is there some way to increase the number of fabricators on this list to increase competition?	It is in the best interest of the state to have as many qualified fabricators bidding on work. Caltrans encourages any steel or precast fabricator wishing to perform work for the state to initiate the audit process by going to the Office of Structural Materials website and filling out the self audit: http://www.dot.ca.gov/hq/esc/Translab/smbresources.htm
Will more materials accepted solely on a Certificate of Compliance be allowed, in particular bearing pads and joint seals?	There are no current plans to amend the list of products accepted solely on a Certificate of Compliance. There are other alternate release procedures in development that will meet the needs of the department and accelerate material acceptance.
Four quality control samples are required to be tested per lot of ultimate butt splices. A sample is one splice and one control bar. The acceptance criteria is three of four splices need to pass. If the first three samples pass, why does the fourth sample need to be tested?	Revisions to Section 52 will likely waive the requirement to test the 4th splice, if the first three pass and the requirement to test the control bars if they are deemed unnecessary per the results of the splice testing.

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<p>Fusion butt-welded hoop specifications require prequalification of the fabricator. The contract requires the submittal of a quality manual as well as a splice prequalification report on a per job basis. Is it possible to streamline this process?</p>	<p>Caltrans is currently modifying Section 52-1.08. A likely outcome of this revision is to remove the requirement to submit a quality manual and prequalification report for each job for UBS hoops. Per lot sampling will still be required</p>
<p>Is there a prequalified list of bearing pad fabricators? Can a contractor purchase pads from anyone supplying pads?</p>	<p>There is no prequalified list of bearing pad fabricators. Contractors are required to complete the Notice of Materials to be Used for bearing pad fabricators. Caltrans will respond to this notice. Caltrans encourages new fabricators to bid on work for the state</p>