

Bridge Contractors / Caltrans Liaison Committee Meeting

Date: Friday, September 22, 2023
Time: 9:00 AM To 12:00 PM
Location: 4050 Taylor Street, Garcia Room, San Diego **and via WebEx**



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 ongoing 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: Richard Foley, Deputy Division Chief – Structure Construction

TYPE OF MEETING: Hybrid - In person and via WebEx for those unable to attend in-person

FACILITATORS: Bryan Bet and Christian Santos Structure Construction/ Don Riese Flatiron Corp

NOTE TAKERS: Phong Le and Roy Auer

MINUTES POSTED AT: <https://dot.ca.gov/programs/engineering-services/bridge-contractor-outreach>

Welcome and Facilitators Introduction

Presenter: Bryan Bet, Christian Santos, and Don Riese

- Welcome statement
- Housekeeping and safety protocols

Opening Remarks and Purpose for Meeting

Presenter: Rich Foley, Deputy Division Chief of Division of Engineering Services (DES) – Structure Construction (SC)

- Announcement of Christian Santos and Bryan Bet as newly promoted Area Construction Managers
- \$12 billion worth of projects
- Expressed gratitude for the emergency response due to the unprecedented storm events

Presentation – Safety Update

Presenter: Adrian Cortez – Structure Construction

- SC – new safety slogan “safety first always”
- Ice Breaker using Kahoots
- Sarah Rusby acting Safety Engineer for SC. New Safety Engineer position coming soon.
- Culture of Safety – Engagement, recognition, documentation
- Moving towards zero deaths
- Safe System Approach – “4 pillars of traffic safety”
- Encourage Contractor to participate in Caltrans Construction Safety Award Program
- “PPE is first but last resort”

Presentation – Bridge Deck Grades and Intermediate Grades

Presenter: Brandon Farmer - Structure Construction

- Purpose for presentation:
 1. Introduce new survey technology
 2. Clear guidance on roles and responsibilities between CT and the Contractor
 3. Develop consistent implementation throughout the State
- Examples of Digital Communication: Building Information Modeling (BIM), *AB 1037* – Assembly Bill signed by the governor on 9/23/22 w/ milestones defined, Format – “.xml” 3D surface files provided for now, Equipment used w Digital Technology – RTK rovers and total stations
- *AB 1037* requires the CT to develop an implementation plan for use and integration of Digital Construction Management Technology (DCMT) from preconstruction to project completion (APS thru As-built)
- As part of *AB 1037* implementation – moving away from paper 4-scales
- Existing technology being implemented in the field – Civil 3D, Robotic Total Station, Data Collector, Trimble GNSS Systems
- CT surveys use real-time GPS Networks using permanent base stations w/ cellular data. Useful automated machine guidance (AMG) will integrate with other types of work.
- Civil 3D used for bridge deck contours, bridge alignments, camber, and falsework integration, especially focused towards new generation hires with prior knowledge taught in schools
- Files will be available online included with bid packages
- Brief History of bridge survey control from 1960’s to 2021. Currently, in *Standard Specification 5-1.24 Construction Survey* the Department places stakes and marks in accordance w/ the Department’s *Surveys Manual* chapter 12, “Construction Surveys”
- SC provides quality assurance for element layout during construction and Contractor will provide a Survey QC Plan for review and approval. However, historically this has been a collaborative effort between CT & Contractor. Roles and responsibilities should be discussed during the preconstruction meeting prior to the work.
- Define types of survey work & roles and responsibilities – in general, QA (SC) and QC (Contractor). For some operations (stringer cambers, deck dowels & EOD, provide bridge rail profile, permanent and vertical/horizontal clearance) SC will provide QC

- Comments or Questions:
 1. Contractor: What has changed since origins? Should there be a bid item for surveying? Answer: With plain language specification in 2010 CT has stepped back a bit to define roles & responsibilities more clearly. Historically surveying QC has primarily been the responsibility of the Contractor. There is a need to provide statewide consistency for bidding purposes and avoid problems and issues. Defining expectations - should be provided in the QC Plan.
 2. Contractor may need to rely on CT for survey, however, QC plan will define roles and responsibilities. Should this scope of work be included in a bid item? Answer: Rich F. would like to explore, however, will need to get concurrence w/ DOC to include the scope in a bid item
 3. Contractor: Does QC plan include minimum requirements? Request for defined expectations in QC plan. Should this be included as an item? May need to specify grading points. Inconsistency with grading points has led to issues in the past. Answer: see above
 4. Contractor stated that CM/ local agency do not seem to know what they are responsible for. Even on some projects where consultants are running the SC work, the consultants may lack the institutional knowledge about what they are expected/ required to provide
 5. How do we provide consistency w/ local agencies w/ CT specifications? This discussion still needs to be had with local agencies. Contractor’s concern - there have been inconsistencies with enforcement in the past. Local agencies may not have the

resources. This topic of discussion needs to be explored further.

6. Don Riese - The current process has been working. Working together is the best thing to do and should be continued. Agrees with defining roles and responsibilities but does not agree with owning the process
7. Christian S. - This improvement was developed through the QMS process (plan-do-check-act) and is an evolving process
8. Contractor - What if there are discrepancies in BIM model. CT has legal rights however if the Contractor makes changes, it will become the Contractor's responsibility. Still developing BIM roadmap
9. Contractor – who owns the rights to the data? Tony E. – A pilot project is currently using BIM and is being developed in District 3, however, is still under discussion. BIM roadmap can be found on CT website.

Presentation – Gilman Street Pedestrian Overcrossing (Berkeley)

Presenter: Mike MacLeod, Golden State Bridge & Eric Urmeneta, Structure Construction

- Topics to present: introduction of project, design features, unique project issue, lessons learned, and takeaways
- Alameda County Transportation Commission (ACTC) funding agency
- Parsons Corporation – consultant design
- Purpose and need - I80/Gilman interchange improve pedestrian and vehicle traffic safety
- 230 ft steel arch bridge CIP CIDH pile columns
- Tied-arch bridge (basket handle), deck support by vertical ties connected to the arch rib.
- Unique Project Issue –
 1. FW span across WB 80 onramp and EB 80 w/ adjustable steel post
 2. 36x182 stringers for 80ft falsework span
 3. Falsework needed to be isolated in east and west span for falsework adjustment due to traffic closure restrictions.
 4. 1.4" to 3" camber strip values provided to the Contractor by CT.
 5. GSB - Procurement of specialized materials required increased lead time
 6. Geometric control done by Contractors. Vertical controls were not coming out as expected, soffit was discovered to be up to 4.5" low prior to soffit pour. Camber values only accounted for Falsework deflection however did not account for vertical alignment.
 7. SC – multiple stakeholders were involved to resolve this issue and explore various options. Final decision – build per plan
 8. GSB- replace camber strips not used. Used false soffit option to place additional falsework on top of the existing soffit. Increase in cost and time.
 - Estimated 8 weeks of work w/ approximately \$700k cost.
 - Actual - 5 weeks of work at a cost of about \$320k.
- Lessons Learned - should account for all falsework deflection, bridge camber, & vertical alignment in camber values calculations. Provide a breakdown of all data used to calculate camber values for review where camber is provided
 1. Taking ownership and accountability of issues leads to quicker resolution
 2. Collaborative problem-solving and working together increased efficiency
 3. Involve all stakeholders
- Comments or Questions:
 1. D. Tenario – take responsibility for bringing on consultant SR which required more oversight
 2. How long did it take to come up with a solution? – GSB: it took a week to come up with a solution to keep the project moving

- Break -

Presentation – Temporary Structures Manual, Bridge Removal Manual Introduction, and Falsework Manual Updates

Presenter: Jim Nicholls – Falsework Engineer in DES - Structure Representative

- Information and discussion on falsework manual updates
- Contents of Manuals
 1. TSTT Sponsor Bryan Bet, Chair Jim Nicholls
 2. Monthly newsletters are provided
- Falsework advisory team (FWAT) partners w/ industry
- Falsework Manual, Bridge Removal Manual, Temporary Structures Manual
- Falsework Manual
 1. Revised manual published April 2020
 2. Revision 1 published Sept 2020
 3. Revision 2 published Jan 2021
 4. Revision 3 published Aug 2021
 5. Revision 4
 6. Revision 5 will be published soon:
 - *Section 4-8 Prestressing Forces*
 - *Section 4-12.03 Horizontal Clearances; ADA compliant*
- Bridge Removal Manual
 - Published July 2023
 - Table of Contents – photos added; tailored for new engineers
 - Chapter 7 Environmental Considerations – emphasized
- Temporary Structures Manual
 - Will cover topics not found in other Manuals
 - Currently being drafted
 - Addresses temporary structures that are not falsework or shoring
 - Focus on different types of structures and their associated loads, i.e. trestles, haul bridges, and work platforms
 - Will provide methods to determine wind loads
 - Chapter 5 - Guying forms and rebar assemblies – spacing of guy wires may spearhead a change to the Specification. This will absorb the current handwritten Guy Wire Handbook into Chapter 5
 - Chapter 7 - Bridge Scaffolds will hope to provide more guidance for consistency
- Comments or Questions:
 1. Online questions – will these manuals be included online? Roy A.: Yes

Presentation – I5 Dunsmuir Deck Replacement CMGC

Presenter: Christian Santos, Structure Construction & Micaiah Revero, Meyers and Sons Construction

- This District 2 project was originally 2 projects but was eventually combined into one.
- May through November work window
- Why CMGC?
 1. Constructability
 - Limited work window (due to winter suspensions)
 - Utility relocations & coordination

- Permits and ROW
 - Early construction activities during PS&E
 - CMGC Tools
 - Local community
 - Railroad
- 2. Optimize
 - Construction techniques
- Challenge: Winter Work Moratorium
 1. Reason: Seasonal work volume, restoration of traffic
 2. Solution: Optimized phasing, access, design, and constructability during PS&E
- Challenge: Maintain existing structural integrity/temporary platform design
 1. Reason: Temporary loading conditions for arch spans
 2. Solution: Final temporary support design, demolition/reconstruction sequence
- Challenge: Environmental Permitting (spanning over waterway)
 1. Reason: Application/approvals were highly dependent on constructability strategies (cost/schedule)
 2. Solution: CMGC Process - permanent and temporary designs, phasing/staging, access, regulatory compliance
- Challenge: Difficult Construction Access
 1. Reason: working around a river, existing bridge, railroad, city park, ESA
 2. Solution: Crane selection, erection plan, avoid river diversion or trestle
- Challenge: Mobilization/setup of 440T crane
 1. Reason: Large crane, narrow access roads, tight corners, limited staging area
 2. Solution: Worked w/ crane companies during PS&E
- Challenge: Work platform erection under existing bridge
 1. Reason: No way to set up for traditional falsework erection
 2. Solution: Right-sized crane and positioning the “nose-picker” (engineered assembly to allow the crane to work under the bridge)
- Challenge: Union Pacific Railroad (UPRR) TCE, new RR grade crossing
 1. Reason: Use of existing UPRR access road, new RR crossing for access
 2. Solution: Contractor input for PS&E coordination with UPRR
- Conclusion – may want to consider future projects that may benefit from and be nominated for CMGC delivery method
- Comments or Questions:
 1. How do you bring on subcontractors and how are they compensated during the CMGC process? Answer: Utilize the preconstruction budget to use task orders for upfront costs if a subcontractor is needed; or utilize early work packages to bring on subcontractors.

Presentation – Updates from Materials and Engineering Services (METS)

Presenter: Jacquelyn Wong & Mohammad Shamol - METS

- Focus on two topics: Build America, Buy America (BABA) and Environmental Product Declarations (EPD)
- CPD 22-13 BABA history
 1. Jun 28th 2021 DD-119 National Environmental Policy Act (NEPA) projects subject to BA
 2. Nov 15th 2021 Infrastructure Invest and Jobs Act (IIJA)
 3. Nov 10th, 2022 BABA implementation
 4. Dec 13th, 2022 CPD 22-13
 - Steel or Iron Materials – no change

- Manufactured products – new change
 - Add construction materials – new change
- 5. *CPD 22-13* Defines requirements and what materials are applicable
- Not applicable – temporary work, tools or construction equipment, existing project materials or products that are modified or moved to another location on the same project
- Authorized Material List (AML) – in progress
- Waiver Requests are strongly discouraged
- Ensuring Success – Discuss requirement during preconstruction, *CEM3101*, share info with subcontractors, reduce impact on project delivery, and be aware that iterations of Buy America requirements are still being developed over the next 12 to 18 months (still dynamic).
- Ongoing Caltrans environmental product declaration (EPD) efforts– Buy Clean CA Act (*AB-262*)
- Mandated Materials (BCCA) & Non-Mandated Materials (FHWA & CT)
- In accordance w/ *2023 Standard Specification Section 6-1.06 Buy Clean California Act*
- Contactor's Role – Submit *CEM-3101* timely, Submit applicable EPDs through DIME
- Caltran's Role – Discuss EPD requirements during preconstruction, review EPD submittal, verify the GWP is within published limits
- Comments or Questions:
 1. Are aggregates included? Answer: NO
 2. Is there still a moratorium for waivers for Buy America? Answer (Jacquelyn W.): Still dynamic; this is still something that needs to be monitored.

Look Ahead Project List/Wrap Up and Final Thoughts

Presenter: Richard Foley, Deputy Division Chief – Structure Construction

- Final thoughts – SC is trying to be more collaborative. These meetings are meant to be interactive. Appreciate feedback from Contractors. SC wants to be proactive rather than reactive. Cannot be successful without the help of the Contractor
- Safety and Partnering Awards next week
- CT and Contractors – a symbiotic relationship w/ mutual benefits
- Minutes will be posted at the link above, along with the Look Ahead Projects
- Next Bridge Contractor/CT Liaison Meeting Date:
 1. Location, Time and Facilitators: TBD