



SC Field Review of Temporary Structures (Falsework)

Revision and Approval

Revision	Date	Nature of Changes	Approved By
1	09-30-2024	Revised	John Lammers
0	12-05-2017	Original issue	Richard Foley

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Background

This process establishes Structure Construction (SC) Bridge Construction Engineer's (BCE) roles, responsibilities, and procedures for field review of temporary structures (falsework) prior to loading.

Contractors design, construct, and maintain falsework to support state highway structures during construction. The falsework must be safe and adequate, provide the necessary rigidity, support the imposed loads, and produce a completed structure that conforms to the lines and grades shown on the structure plans. Failure of falsework could be catastrophic. SC uses all contract requirements, staff experience, and *best engineering practices* to prevent falsework failures.

Structure Representatives (SR)/Assistant Structure Representatives (ASR) review and authorize the falsework shop drawings, inspect falsework for conformity to authorized plans, and verify that the falsework is inspected and certified by the licensed engineer signing the falsework drawings, or his representative, before concrete is placed. For additional information, refer to:

- Bridge Construction Memo [\(BCM\) 48-2](#), *Temporary Structures – Falsework*
- [Chapter 2](#), *Review of Shop Drawings*, of the *Falsework Manual*

SC BCEs perform field reviews of falsework as a second level Quality Assurance (QA) review, prior to concrete placement.

Process Inputs

1. Authorized falsework shop drawings, highlighted to show elements inspected.
2. Falsework in place, ready for review prior to concrete placement.
3. Falsework punch list completed by Structure Representative.

Procedure

1. All work associated with this process is charged as [Project Direct – Construction](#).
2. Area Construction Manager (ACM):
 - a. Verify field reviews of falsework are completed and documented in a timely fashion.
3. Bridge Construction Engineer (BCE):
 - a. Schedule a day and time to meet with the SR in the field to perform the field review.
 - i. The best time to perform a review is after a field review of the falsework by the Contractor's falsework engineer or approved delegate.
 - b. Review authorized falsework shop drawings prior to performing the field review to get familiar with the plans.
 - i. Verify that the SR has uploaded authorized falsework shop drawings into [VISION](#), including railroad authorizations, if applicable.
 - c. Verify the SR has coordinated with the Contractor to provide safe access to the falsework for inspection. Obtain Caltrans personal protective equipment (PPE) and necessary equipment such as a tape measure, level, laser pointer, and binoculars.
 - d. Meet with the SR at the job site and discuss status of the constructed falsework.
 - i. Any current falsework issues?
 - ii. What issues are being addressed?
 - iii. Is there anything I need to know prior to performing the review?
 - iv. Any last-minute revisions? If so, when do we expect these revisions to be authorized?
 - e. Perform a global field review of the falsework. Things to look for include:
 - i. Falsework layout is consistent with the authorized plans.
 - ii. Longitudinal, transverse, internal, and external stability.

- iii. Verify that bents are plumb, etc.
- iv. Things you can see from afar.
- f. Perform closer review of each falsework bent and element (see [Falsework Manual](#), Chapter 9, *Inspection*).
 - i. Look for consistency with authorized falsework shop drawings.
 - ii. Visualize load path, from joists and stringers to pad. Check pad conditions and footing protection from softening and undermining.
 - iii. Check all connections.
 - iv. Check the condition of each element.
 - v. Check for full bearing between each element (post to cap, cap to sand jack, etc.).
 - 1. It is recommended to include and work with a contractor staff's staff during the review, to shim gaps in the falsework as the review is performed.
 - vi. Check transverse and longitudinal bracing for each particular location.
 - vii. Check for tell-tales.
- g. Check falsework cap buildup and bent stability of constructed falsework and compare to authorized falsework shop drawing details.
- h. Check falsework in special locations over or adjacent to roadways for conformity to the requirements specified in *Contract Specifications*, Section 48-2.02B(4), *Temporary Structures – Falsework – Materials – Design Criteria – Special Locations*.
- i. Discuss any deficiencies and plans for their resolution with the SR.
- j. Send an email to the SR summarizing the BCE's falsework review and any corrective actions required prior to the concrete pour.
- k. Confirm that the SR and ASR note in their daily reports that the BCE was on site and performed a falsework review.
- 4. Structure Representative (SR):
 - a. Upload authorized falsework shop drawings to VISION, including applicable railroad authorizations.
 - b. Coordinate meeting with BCE for walkthrough.
 - c. Document BCE field review of falsework in daily report.
 - d. Coordinate any required corrective work with the Contractor.
 - e. Verify that Contractor corrects all deficiencies prior to concrete pour and report that deficiencies have been corrected to the BCE.

Process Outputs

1. Completed BCE review of constructed falsework
2. E-mail to the Structure Representative summarizing BCE review (non-conformance)
3. Daily reports

Attachments

None