



# SC Field Review of Temporary Structures (Falsework)

## Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	12-05-2017	Original issue.	Steve Altman

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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 plan, and verify that the falsework is inspected and certified by the licensed engineer signing the falsework drawings, or his representative, before concrete is placed. Refer to:

- [Bridge Construction Memo \(BCM\) 48-2, Temporary Structures – Falsework](#)
- [BCM D-4, SC Field Review of Temporary Structures](#)
- [Chapter 2, Review of Shop Drawings, of the Falsework Manual.](#)

SC BCEs perform field reviews of falsework as a second level of review of Quality Assurance (QA) 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. Verify that the authorized shop drawings (including railroad if applicable) have been uploaded to VISION.
2. Schedule day and time to meet with the SR in the field to perform field review.
  - a. The best time to perform a review is after a field review of the falsework by the Contractor's falsework engineer or approved delegate.
3. Review authorized falsework shop drawings prior to performing the field review to get familiar with the plans.
4. Verify the Structure Representative has coordinated with the Contractor to provide safe access to the falsework for inspection. Use Caltrans Personal Protective Equipment (PPE) and necessary equipment such as a tape measure, level, laser pointer, and binoculars.
5. Meet with the SR at the job site and discuss status of the constructed falsework.
  - a. Any current falsework issues?
  - b. What issues are being addressed?
  - c. Is there anything I need to know prior to performing the review?
  - d. Any last minute revisions? If so, when do we expect these revisions to be authorized?
6. Perform a global field review of the falsework. Things to look for include:
  - a. Falsework layout is consistent with the authorized plans.
  - b. Longitudinal, transverse, internal, and external stability.
  - c. Are bents plumb, etc.?
  - d. Things you can see from afar.
7. Perform closer review of each falsework bent and element (see [Falsework Manual, Chapter 9](#)).

- a. Look for consistency with authorized falsework shop drawings.
- b. Visualize load path, from joists and stringers to pad. Check pad conditions and footing protection from softening and undermining.
- c. Check all connections.
- d. Check the condition of each element.
- e. Check for full bearing between each element (post to cap, cap to sand jack, etc.).
  - i. Suggest having a laborer present during the review to shim gaps in the falsework as the review is performed.
- f. Check transverse and longitudinal bracing for that particular location.
- g. Check for tale-tales.
8. Check falsework cap buildup and bent stability of constructed falsework and compare to authorized falsework shop drawing details.
9. Check falsework in special locations over or adjacent to roadways for conformity to the requirement specified in *Contract Specifications*, Section 48-2.02B(4), *Temporary Structures – Falsework – Materials – Design Criteria – Special Locations*.
10. Discuss any deficiencies and plans for resolution of them with the SR.
11. Send an email to the SR summarizing the BCE's falsework review and any corrective actions needed prior to the concrete pour. Document in your diary.
12. Confirm that the SR and ASR note in their daily reports that the BCE was on site and performed a falsework review.

The Structure Representative will verify that the Contractor has corrected all the deficiencies prior to the concrete pour and report to the BCE.

## **Process Outputs**

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

## **Attachments**

None