

Section 55 Steel Structures

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Section 55 Steel Structures

4-5501 General

Section 55, "Steel Structures," of the *Standard Specifications* includes specifications for constructing steel structures. For additional information regarding steel structures, refer to Sections 170, "Structural Steel," and 180, "Welding," of Structure Construction's *Bridge Construction Records and Procedures* manual, Vol. 2, available at:

<https://dot.ca.gov/programs/engineering-services/manuals>

Refer to Section 6-1.06, "Buy Clean California Act" (California Public Contract Code, Sections 3500, 3501, and 3503), of the contract specifications and Section 3-606, "Buy Clean California Act," of this manual for material requirements including environmental product declaration submittal requirements.

4-5502 Before Work Begins

The contractor must submit for authorization the shop drawings for structural steel in accordance with Section 5-1.23, "Submittals," of the *Standard Specifications*. The shop drawings are submitted directly to the Structure Design Documents Unit. The review of the shop drawings is a coordinated effort between Structure Design, Materials Engineering and Testing Services (METS), and Structure Construction. Structure Design has the primary responsibility for authorizing the shop drawings.

If any welding must be performed, the contractor must submit a quality control plan for the work. For guidelines in authorizing the submittal, refer to Section 180, "Welding," of the *Bridge Construction Records and Procedures* manual, Vol. 2.

Verify that Form CEM-3101, "Notice of Materials to Be Used," includes structural steel materials. Refer to Section 6-202, "Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products," of this manual for additional information.

4-5503 During the Course of Work

During the work, take the following steps:

- Verify that METS has inspected and released structural steel and fastener assemblies by retrieving Form TL-0624, "Inspection Release Tag," as the assemblies are delivered to the site and by matching the assemblies to Form TL-0029, "Report of Inspection of Material."
- Verify that the contractor performs installation tension tests and rotational capacity tests on all lots of fastener assemblies before installation. To keep track of the location of fastener assembly placement and to protect the assemblies from the weather, make sure the contractor stores the fastener assemblies in their original containers and out of the elements.
- For guidelines on welded connections, refer to Section 180, "Welding," of the *Bridge Construction Records and Procedures* manual, Vol. 2.

- After the completion of the work for each structure, the contractor must submit corrected shop drawings to the resident engineer for transmittal to Structure Design's Documents Unit. Remind the contractor that final acceptance of the contract will not occur until the corrected drawings have been submitted.

4-5504 Quality Control

Guidance for quality control activities included in this section is summarized as follows:

- Verify that the fabrication facility is authorized in accordance with Section 6-2, "Quality Assurance" of the *Standard Specifications*.
- Verify that welding is authorized in accordance with Section 11, "Welding" of the *Standard Specifications*.
- Verify that torque wrenches are calibrated.
- Witness the contractor's verification of minimum tension as required by the specifications. Record the data in the project files.
- Verify that the contractor's quality control records are submitted on time and that the results comply with contract requirements.

4-5505 Payment

Refer to the appropriate sections of the special provisions and *Standard Specifications* for the basis of measurement and payment.

Apply administrative deductions to source inspections outside the State of California in accordance with 6-2.01E "Material Source Inspection and Testing," of the *Standard Specifications*.