

Special Specification 4000

Prefabricated Pedestrian Steel Truss Bridge Span



1. DESCRIPTION

Design, fabricate, and install prefabricated pedestrian steel truss bridge spans including bearing devices, anchor bolts, bridge deck, and pedestrian railings. This Item does not govern the design or construction of bridge substructure, including piers, abutments, and foundations.

1.1. Design.

The Contractor is responsible for the structural adequacy of the prefabricated pedestrian steel truss bridge span design. Submit to the Engineer details and design calculations bearing the seal of a licensed professional engineer for review and approval. Include the steel truss span superstructure, bearing devices, anchor bolts, bridge deck, and bridge railing with accessibility handrails when required. Provide at least 28 calendar days notice before the start of fabrication. Design in compliance with the current AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges. The department will not grant additional time for rejection or correction of design submissions.

For the maintenance vehicle, use the current AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges.

Design railing as 42 in. pedestrian railing in accordance with the latest AASHTO requirements for pedestrian railing. Railing may be integral with through truss members provided it satisfies LRFD Specification requirements.

Design bridge deck surfaces to meet the requirements of Texas Accessibility Standards (TAS) Section 302, "Floor and Ground Surfaces."

When bridge deck grade is equal to or greater than 5%, provide accessible handrails meeting the requirements of the TAS Section 505, "Handrails."

2. MATERIALS

Provide materials that meet requirements of the following Items:

- Item 421, "Hydraulic Cement Concrete"
- Item 422, "Concrete Superstructures"
- Item 434, "Bridge Bearings"
- Item 440, "Reinforcement for Concrete"
- Item 441, "Steel Structures"
- Item 442, "Metal for Structures"
- Item 447, "Structural Bolting"
- Item 448, "Structural Field Welding"
- Item 449, "Anchor Bolts"
- Item 491, "Timber for Structures"

Paint, galvanize, or leave the steel truss surfaces exposed. When specified, galvanize as directed by Item 445, "Galvanizing." When painting, use Protection System II as directed by Item 446, "Field Cleaning and Painting Steel." Paint gray unless otherwise shown on the plans. Provide a Society for Protective Coatings SSPC SP6 cleaning for exposed weathering steel.

2.1. **Fabrication.**

Fabricate the trusses, bearing devices, and other permanent metal components for the steel truss span in accordance with Item 441, "Steel Structures." Fabricators performing the work must be approved by the Department before producing the steel truss spans for department projects. A list of approved pedestrian steel truss bridge span fabricators is maintained by the Construction Division. Approval of the fabricator is based on the following:

- Obtaining certification by the American Institute of Steel Construction (AISC) Quality Certification Program as a fabrication shop for Major Steel Bridges (CBR);
- Obtaining an AISC Sophisticated Coatings Endorsement when painted bridges are specified;
- Demonstrating the ability to design and fabricate pedestrian steel truss bridge spans that provide quality workmanship, detailing, structural integrity, and satisfactory aesthetics; and
- Having readily available access to the services of a licensed professional engineer, experienced in the design of pedestrian steel truss bridge spans.

Prepare and submit detailed shop drawings for the steel truss span, bearing devices, bridge deck, deck joints, bridge railings, and accessibility handrails. Submit 6 complete copies of the shop drawings for review and approval. Give the Engineer at least 28 calendar days to review and approve each shop drawing submittal. Include unique drawings that illustrate specific portions of the work to be done. Clearly show all relevant design information such as member sizes and connections.

3. **CONSTRUCTION**

Erect the bridge and construct the deck in accordance with the following Items:

- Item 422, "Concrete Superstructures"
- Item 441, "Steel Structures"
- Item 491, "Timber for Structures"

Construct bridge deck surfaces that meet the requirements of TAS Section 302, "Floor and Ground Surfaces."

4. **MEASUREMENT**

This Item will be measured by each pedestrian truss bridge span in the completed and accepted final position.

5. **PAYMENT**

The work performed and materials furnished in accordance with this Item and measured under "Measurement" will be paid for at the unit price bid for "Prefabricated Pedestrian Steel Truss Bridge Span" of the length specified. This price is full compensation for design, fabrication, transport, erection, deck construction, and final finishing; and for equipment, labor, tools, and incidentals.