

Special Specification 4032

Temporary Support of Bridge Superstructure



1. DESCRIPTION

Furnish, install, maintain, and remove Temporary Support of Bridge Superstructure, as well as repairing the existing structure as a result of the temporary support work.

2. MATERIALS

- 2.1. Provide materials conforming to the requirements of Item 442, "Metal for Structures," and DMS 6100, "Epoxies and Adhesives."

Provide equipment necessary to complete the work. Operate all water-going vessels, barges, etc. in accordance with United States Coast Guard (USCG) regulations.

3. CONSTRUCTION

- 3.1. **General.** The Lift Span is to be temporarily supported in the raised position to facilitate the replacement of several elements essential in the bridge lifting operation. Each end of the Lift Span shall be temporarily supported. The temporary supports shall be founded on the tower piers and secured to the tower steel. The plans designate the locations of temporary supports.

- 3.2. The Contractor shall be required to design, detail, and construct the temporary support systems for the design loads shown on the contract plans. The Contractor shall engage the services of a registered Texas Licensed Professional Engineer to design and detail the temporary supports. All design and details shall be in conformance with the *AASHTO Standard Specifications for Highway Bridges (17th Edition, ASD)*, *ANSI/AASHTO/AWS Bridge Welding Code*, and TxDOT design recommendations and manuals.

- 3.3. **Working Drawings.** The requirements of Item 5, "Control of the Work" shall apply. Before fabrication, prepare and submit working drawings and computations prepared, stamped and signed by a Texas State Licensed Professional Engineer for the temporary support scheme chosen.

- 3.3.1. The drawings shall include but need not be limited to the:

- location of temporary supports;
- details of support systems and connections to the existing structure;
- type and grade of all materials used for supports; and
- sequence of operations for installation and removal of temporary supports.

Given that the temporary supports are located over the waterway, the sequence of operations shall be coordinated with USCG.

- 3.3.2. Submit Working Drawings in accordance with Item 5, "Control of the Work." Submit seven (7) copies of Working Drawings together with three (3) copies of all design computations to the Engineer for review. Alternatively, electronic submittals may also be deemed acceptable at the preconstruction conference. The Engineer will be allowed the longest of the following time durations to examine design computation and working drawings:

- Ten (10) working days; or
- two (2) working days for each drawing plus one working day for every four (4) design computation pages.

The Contractor shall have approved working drawings prior to beginning any of the temporary support work. The Contractor shall bear all costs which may result from the ordering of any materials or equipment or the use of any preparatory labor prior to the approval of the working drawings.

- 3.4. **Operations.** Installation of temporary supports shall be in accordance with the approved working drawings. The temporary supports shall be positively secured to the existing steel structure to prevent any dislodgement as a result of the construction operations or other sources. Welding of the temporary support steel to the existing structure is prohibited.

Any field drilling of holes in members shall be in accordance with the Contractor's working drawings. No flame cutting or flame drilling will be permitted. All damage to the existing structure, as determined by the Engineer, shall be repaired by the Contractor in a manner satisfactory to the Engineer at the Contractor's expense. All holes in the existing structure used for temporary support shall be filled with high strength bolts after removal of the temporary support assembly. Care shall be taken so that the required high strength bolts added do not cause conflicts with the lifting operations.

Upon completion of the temporary support work, the materials used for the temporary support system shall become the property of the Contractor

4. MEASUREMENT

This Item will be measured as Lump Sum.

5. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Support of Bridge Superstructure," which will be full compensation for preparation of Working Drawings and computations; all material, equipment, and labor necessary to complete the work; raising and lowering the Lift Span as many times as required to complete the work; installing and removing the temporary support system; installing high strength bolts in field drilled holes and any required repair work; and all incidentals. Progress payments will be divided so that 80% of the lump sum price bid will be paid upon the erection of the temporary support system; and the remaining 20% will be paid upon the removal of the temporary supports and the completion of any required repair to the satisfaction of the Engineer.