

Special Specification 4046

Temporary Detour Bridge



1. DESCRIPTION

Furnish the design, construction, maintenance and removal of temporary detour bridge necessary to accommodate vehicular traffic during construction of proposed permanent bridge.

2. MATERIALS

Use materials that meet the requirements of the following items.

- Item 406, "Timber Piling,"
- Item 420, "Concrete Substructures,"
- Item 421, "Hydraulic Cement Concrete,"
- Item 440, "Reinforcement for Concrete,"
- Item 442, "Metal for Structures," and
- Item 540, "Metal Beam Guard Fence."

Furnish new or used materials for prefabricated steel truss span. Thoroughly inspect used material and repair or replace any defects prior to installation.

Furnish untreated Douglas Fir or Southern Pine for timber piles.

3. CONSTRUCTION

Construct, maintain and remove the detour bridge in accordance with the details shown on the plans and to the requirements of the pertinent Items as follows:

- Item 404, "Driving Piling,"
- Item 420, "Concrete Substructures,"
- Item 440, "Reinforcing for Concrete,"
- Item 447, "Structural Bolting," and
- Item 540, "Metal Beam Guard Fence."

3.1. **Bridge Substructure.** Construct temporary abutments as shown on the plans. Verify all dimensions of the prefabricated superstructure with the manufacturer prior to construction of the substructure and foundations. Dimensions shown on the plans must be adjusted by the Contractor, and approved by the Engineer. Alternate design may be permitted – submit to the Engineer alternate details and design computations bearing the seal of a licensed professional engineer. Alternate designs must consider earth loading, dead loading, and HL-93 Live Loading.

3.2. **Bridge Superstructure.** Provide prefabricated, modular (panel type) steel truss bridge with the dimensions shown on the plans. Submit to the Engineer details and design computations bearing the seal of a licensed professional engineer for review and approval. Design all components of the detour bridge per the latest American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specification for Highway Bridges. Design the detour bridge for dead loading and HL-93 live loading.

Fabricate all members by a fabricator approved by the Engineer and certified by the American Institute of Steel Construction (AISC) Quality Certification Program as a fabrication shop for Major Steel Bridges (Cbr).

Weld in accordance with AWS D1.1 and AWS D1.5. Galvanize all components of bridge with exception of upper wearing surface of deck.

Do not field weld on bridge unless otherwise approved.

After bridge is constructed in place, provide written certification from bridge fabricator that bridge was assembled in accordance with their specifications and is in a condition suitable for vehicular traffic.

Provide steel bridge deck with epoxy aggregate wearing surface.

Provide vertical stanchions and timber blocking for attachment of Thrie Beam railing on inside face of truss. Design truss and attachments for forces due to crash Test Level TL2.

3.3. **Bridge Railing.** Furnish and install Thrie Beam Metal Beam Guard Fence to inside faces of truss. Mount top of guard rail 32" above finished deck.

3.4. **Remove Detour Bridge.** Dismantle the detour bridge when the proposed permanent bridge has been completed and the roadway is open to traffic. Remove the bridge in accordance with Item 496, "Removing Structures." Remove full length of timber piles.

All parts removed from the detour bridge are the property of the Contractor and removal is at his expense.

4. MEASUREMENT

This item will be measured as each temporary detour bridge constructed in accordance with the details shown on the plans.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Detour Bridge" as shown on the plans. The price will be full compensation for furnishing all materials (including timber piling, concrete, reinforcing steel, prefabricated superstructure, and bridge railing) for constructing and maintaining the detour bridge and for the removal of the detour bridge; and for all work, labor, tools, equipment and incidentals necessary.