



Section 8 – Bridge Joint Seals Temporary Deck Bridging Details

XS Sheet Numbers

xs8-140

Description of Component

Temporary deck bridging is used when a portion of the bridge deck is removed and cannot be reconstructed prior to opening the roadway to traffic. The system consists of steel plates anchored to bridge decks that permits traffic over the unfinished deck work. Normal uses are for joint seal assembly replacement, joint opening reconstruction, hinge bearing replacement, full depth bridge deck failures.



Figure 1: Hinge Bearing Replacement.



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Figure 2: Note polyester concrete taper in foreground.



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Figure 3: Anchor bolt installation.



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Figure 4: Ready to open to traffic



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Standard Drawing Features

The drawing includes a table of plate thicknesses for clear spans from zero to five feet. The details cover joint skews up to 20 degrees.

The design requires that the distance from the deck opening to anchor bolts be one foot minimum.

For bridge joint applications, slotted holes provide for thermal movement.

Design/General Notes

Live Load: HS20 wheel load plus 30 percent impact

The steel deck plating design is controlled by deflection.

Design Criteria

Steel yield $F_y \geq 36$ ksi

Deflection $< L/300$

Plate f_b max = 24 ksi (0.67 F_y minimum)

$\frac{3}{4}$ inch Anchor bolt allowables;

Tension < 2.4 kips

Shear < 2.4 kips

Contract Specifications

48-4 Temporary Decking

Revised Standard Specifications: 48-4.01, 48-4.02 and 48-4.03

Applicable Standard Special Provisions for 48-4.

7-1.03 Public Convenience

Restrictions on Use of Standard Drawings

The maximum longitudinal clear span is 5 feet. Greater than that the deck plate may require a special design to control the deflection. The required plate thickness may create a bump greater than what District Traffic Engineering will allow.

The maximum joint skew for Temporary Deck Bridging XS sheet is 20 degrees. Greater skews create grade problems with the temporary taper and plate stagger. To solve this the plates are placed parallel to the joint. The exterior plates are cut in a triangle, which requires special detailing.