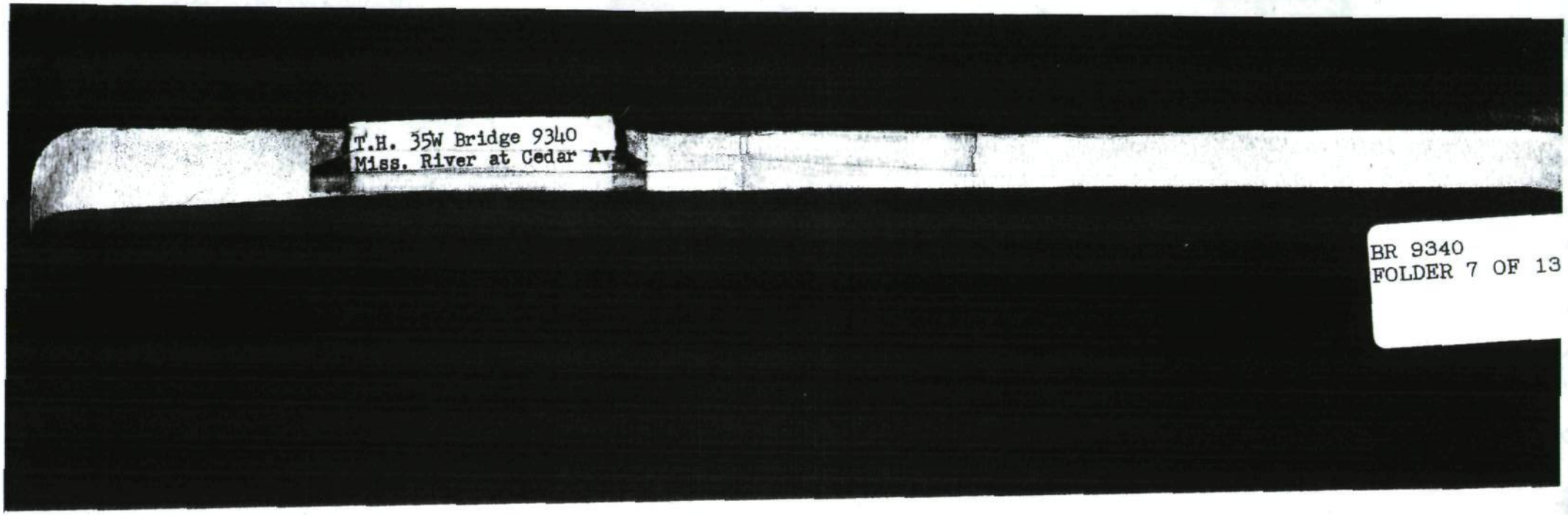

SEP 13 1963

MINNESOTA BRIDGE NO. 9340
(T.H. 35W-Minneapolis, Minnesota)

DESIGN CRITERIA
DECK TRUSS SPANS

Design Specifications: 1961 AASHO

Live Load: H20-S16-44 and Interstate Loading.

Allowable Unit Stresses:

fc = 1,600 psi, n = 8 for concrete (f'_c = 4,000 psi)
fs = 20,000 psi for intermediate grade reinforcement.
Lap 30 diameters.
fs = 20,000 psi for structural steel type A36.
fs = 27,000 psi for structural phosphorous-chromium steel up to 2½" thick. A441 type up to 3/4" thickness. ~~A441 modified for thicknesses 3/4" to 2½".~~
fs = 45,000 psi for Q-T low-alloy structural steel (T-1)

No Allowance for Utilities

Trusses: Design with welded members, H.S. Rivets for joints.

Axial Compression:

A36 $16{,}000-0.30\frac{L2}{r2}$
A441 As per AASHO with minimum Y.P. of 50,000 psi
T-1 $36{,}000-1.75\frac{L2}{r2}$

Local Buckling:

	Main Segments	Solid C. Pls. or Diaph's	Perforated C. Pls.	Pls. Supported on One Edge
A36	30.5	38	48	11.5
A441	26	34	42	10
T-1	20	26	32	8

Tension Member Design:

Design with holes out to eliminate butt-welds at connections. (Parts will not be increased in thickness at connections to offset reduction due to holes.)

Compression Member Design:

Use horizontal diaph. to reduce side plate requirements for relatively deep and heavily loaded chord members.

Avoid using horizontal diaphs. in web members.

Perforated Cover Plates:

Top and bottom cover plates for all box members will be perforated for access.

For compression members, thickness in accordance with Local Buckling above.

For tension members use C. Pls. with minimum thicknesses of about 3/4 of those established for compression members.

Use 10" x 20" perforations for design of chord members. Perforations of web members will probably be larger due to unsupported edge thickness requirements. Consider 12" x 20" holes and 14" x 24" holes for web members.

In-To-In of Gussets:

Distance not determined by chord angles and desirable perforation size. Use 22" in-to-in of gussets. Main segments of chords 28" deep.