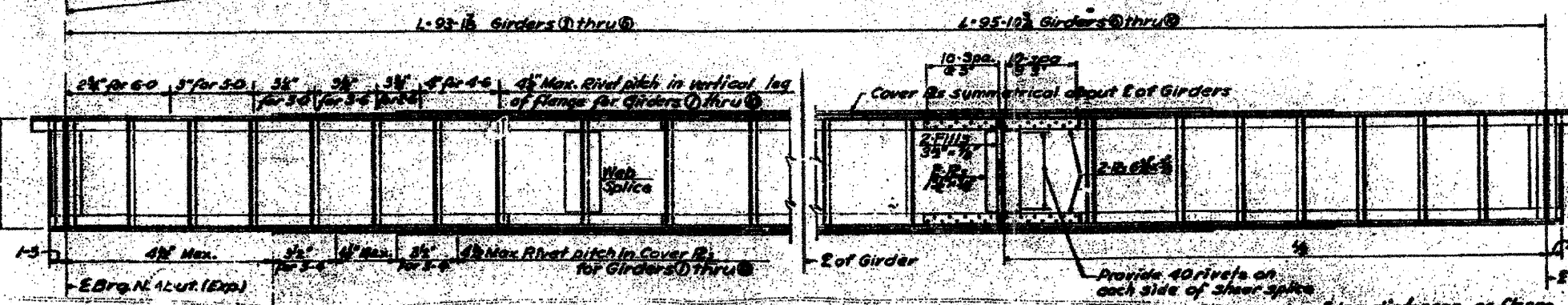
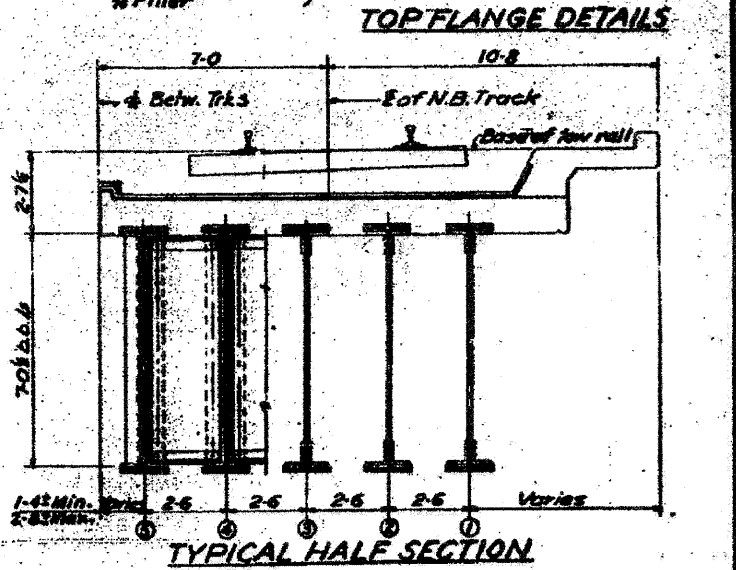
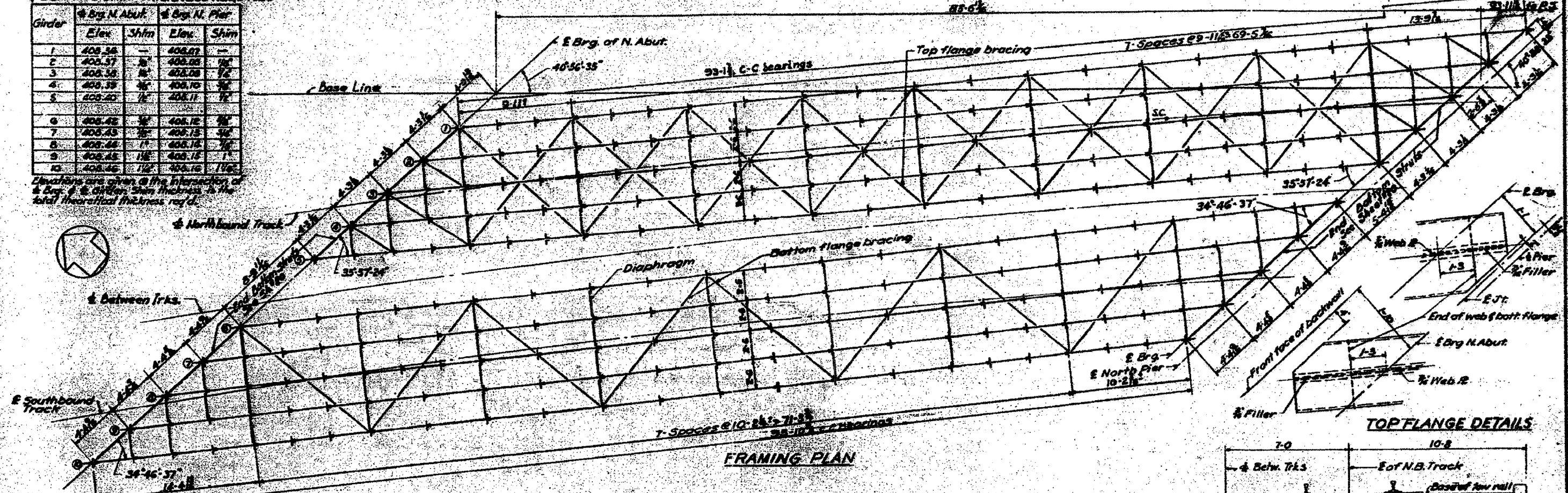


DATE	DES.	COUNTY	TOTAL SHEETS	SHEET NO.
FEB-70	SE	ST. CLAIR	35	27
NO. SHEETS	7	NO. SHEETS	17	NO. SHEETS

ELEVATIONS BACK OF BOTTOM FLANGE ANGLES & BEARING SHIM THICKNESS REQUIRED

Girder	E Brg. N. Abut.		E Brg. N. Pier	
	Elev.	Shim	Elev.	Shim
1	408.38	—	408.07	—
2	408.37	1/8"	408.08	1/8"
3	408.38	1/8"	408.08	1/8"
4	408.39	1/8"	408.10	1/8"
5	408.40	1/8"	408.11	1/8"
6	408.42	1/8"	408.12	1/8"
7	408.43	1/8"	408.13	1/8"
8	408.44	1/8"	408.14	1/8"
9	408.45	1/8"	408.15	1/8"
10	408.46	1/8"	408.16	1/8"

Elevations are given @ the intersection of E Brg. & Girders. Shim thickness is the total theoretical thickness req'd.



**DEAD LOAD PER TRACK**

Ballast, Ties & Rails	2.19%	
Slab, Waterproof Walk	3.00%	
	5.19%	
D.L.	Gir. 1 thru 5	Gir. 6 thru 10
D.L. ecc. 5/16"	1.15%	1.15%
D.L. Steel	.78%	.78%
	2.12%	2.12%
	2.64%	2.64%

**IMPACT**

Vertical (50-W)	42.7%	41.6%
Rolling	20.0%	20.0%
	62.7%	61.6%

**MOMENTS & SHEAR FOR GIRDER NO. 116**

End Shear	Max. Moment
Gir. 1	Gir. 1
DL 124.1K	92.1K DL 2916"
LL 102.5K	104.1K LL 2077"
Imp. 636K	64.0K LL ecc. 324"
Centri. 352K	36.2K Imp. 1431"
Total 325.9K	296.4K Centri. 723"
	750"
Total 355.5K	316.7K

**CENTRIFUGAL**

2 1/2" super  
1.755(2 1/2 \* 3) = 9.65%

**SECTION ALL GIRDERS BOTH FLANGES**

Gross	Net
1/2 Web 8 1/2" x 1/2"	460
2 Ls 8" x 8" x 1/2"	2646
1 R 17" x 1/2"	1488
1 R 17" x 1/2"	1488
Total	7570 Gross
	6535 Net

Gross I = 275,865 in<sup>4</sup> Gross S.M. = 6,147 in<sup>3</sup>  
 Net I = 235,369 in<sup>4</sup> Net S.M. = 5,245 in<sup>3</sup>

Allow. Stress = 17,200 psi Gir. 1 thru 5; 16,000 psi Gir. 6 thru 10  
 Unit Stress = Gir. 1 = 17,100 psi  
 Gir. 6 = 13,300 psi

**ADDITIONAL MATERIAL**

Web 8 1/2" x 1/2" = 36.75"  
 End Stiff 4 Ls 7" x 1/2"  
 Use 20 Rivets per Pair  
 2 End Fills 1 1/2" x 1/2"  
 Inter. Stiff. 2 Ls 6" x 1/2" on fills at Diaphragms. 2 Ls 6" x 1/2" on fills elsewhere.  
 Cover Pl. - Girder 6 to 10  
 2 R. 17" x 1/2" Full length  
 2 R. 17" x 1/2" x 52-0

Edge distances on flange angles shall not be more than 6" or less than 1 1/2"  
 Notes:  
 For details of Diaphragm, Lateral bracing & Connections see sh. no. 20  
 For details of bearings see sh. no. 21  
 For General Notes see sh. no. 1  
 For Framing Notes see sh. no. 1.

Designed by: LK  
 Drawn by: ES  
 Checked by: PK & FAE

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS  
 DIVISION OF HIGHWAYS  
 &  
 CITY OF EAST ST. LOUIS  
 EAST ST. LOUIS EXPRESSWAY  
 L&N R.R. OVER WEST BOUND EXPWAY.  
 EAST BOUND EXPWAY RAMP "A"  
 FRAMING PLAN SPAN 1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 DATE JULY 1960 CHICAGO, ILLINOIS SHEET NO. 18