

**DEAD LOAD PER TRACK**  
 Ballast, Ties & Rails 2.75  
 Slab, Waterproof. Walk 3.00  
 5.75 ft

**DEAD LOAD FOR GIRDER 1**  
 D.L. = 5.75/5 = 1.15  
 D.L. Ecc. = 5.75 \* 104/125 = 4.8  
 D.L. Girder = .75  
 1.85 ft

**MOMENTS & SHEAR FOR GIRDER 1**

End Shear	Max. Moment
D.L. 42.2	D.L. 498
LL 59.6	LL 599
Imp. 152	Imp. 154
147.6 ft	154 ft

**IMPACT**  
 Vert. 60 \* 48 / 300 = 9.6  
 Roll. 20 \* 2.5 \* 5 / 12.5 = 80.0  
 70.4 ft

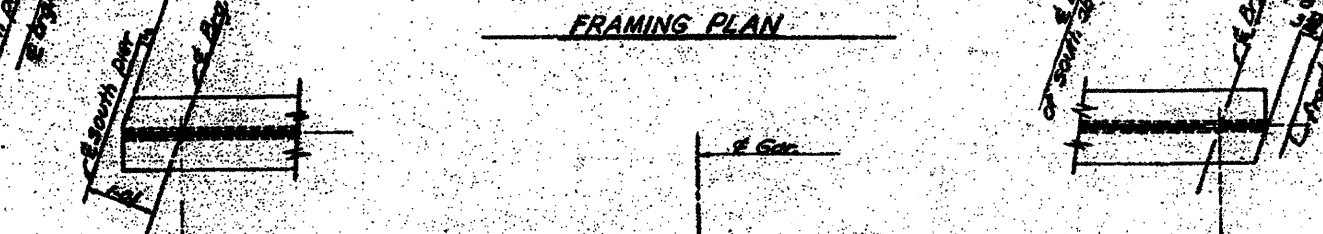
**SECTION ALL GIRDERS BOTH PLSS.**

	Gross	Net
Web 70-2	3.56	3.56
2# G-6-2	15.88	13.02
	20.44	16.58
Gross I = 52,410 in <sup>4</sup>	Gross S.M. = 1617 in <sup>3</sup>	
Net I = 45,940 in <sup>4</sup>	Net S.M. = 1272 in <sup>3</sup>	
Allowable Stress = 18,000 psi		
Unit Stress = 1548 * 1000 / 1272 = 121600 psi		

**Girders**  
 Web P 70-2 = 20.50"  
 Flg. 48 G-6-2  
 (Org. Stiff. 18.5 \* 2 \* 2 (Cut from G-4L)  
 Fil R 0 in  
 (Use 1/2 Rivets Per Pair (Min)  
 Int. Stiff. 20.5 \* 3/4 \* 2 on fills @ Diaphragms.  
 2# 2 \* 3/4 \* 2 on fills elsewhere.

**Diaphragms**  
 Web R 3/4 in  
 Flg. 20 \* 4-4-1  
 6 Rivets

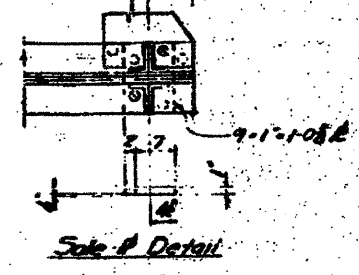
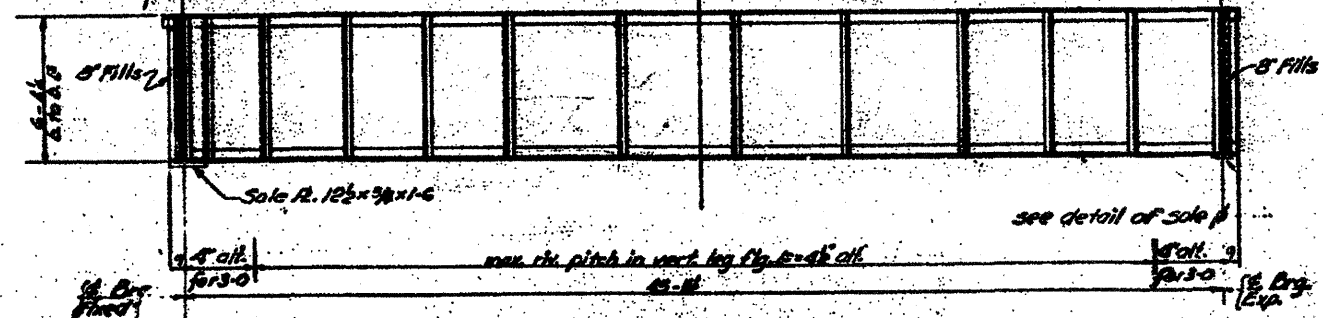
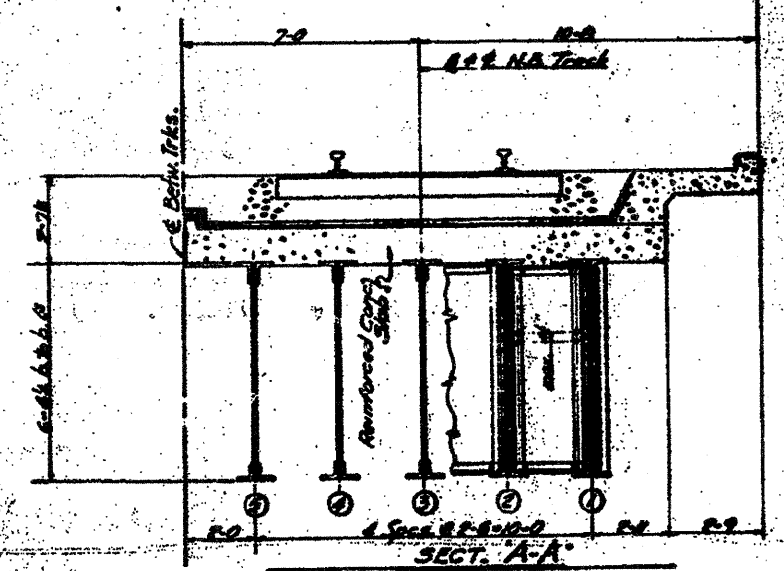
**Top Laterals**  
 2 \* 4-4-1 \* 3 Rivets  
 Gusset R 2



**ELEV'S. BACK OF BOT. FLG. B & ORG. SHIM REQUIRED.**

Gor.	Elev. Shim	Elev. Shim
1	408.29	408.15
2	408.29	408.15
3	408.29	408.15
4	408.29	408.15
5	408.29	408.15
6	408.29	408.15
7	408.30	408.17
8	408.31	408.17
9	408.31	408.17
10	408.31	408.17

Elevs. are given @ the intersection of G. & girders. Shim thickness is the total theoretical thickness req'd.



- NOTES:**
- ① - For details of diaphragm, lateral bracing & connections see Sh. #1.
  - ② - For details of bearings see Sh. #2.
  - ③ - For General Notes see Sh. #1.
  - ④ - Rivets 1/2" Open Holes 1/4" dia.
  - ⑤ - For Reaming Notes see Sh. #1.

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 SOUND EXPWAY  
 RAMP "L", EAST SOUND EXPWAY AND RAMP "M"

FRAMING PLAN SPAN 4  
 N. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

DATE JULY 1960 SHEET NO. 18

Designed By L.L.  
 Drawn By R.L.  
 Checked By R.K. & R.E.

FOR INFORMATION ONLY