

FOR INFORMATION ONLY

SHEET NO. 11 OF 30

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	398B-1	LEE & OGLE	86	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	STP-DRF-742(25)	

MOMENT TABLE

(COMPOSITE IN POSITIVE MOMENT AREA ONLY)

	INTERIOR GIRDER MOMENT TABLE			
	0.4 SP. 1	PIERS	0.5 SP. 2 & 3	PIER 2
I_x (IN ⁴)	183785	994700	181840	438138
I_x (IN ⁴) $\pi=8$	330024		344408	
I_x (IN ⁴) $\pi=27$	242887		255225	
S_x (IN ³)	3987	7275	3610	7947
S_x (IN ³) $\pi=8$	4436		4656	
S_x (IN ³) $\pi=27$	3969		4187	
DL (K/FT)	1.355	1.738	1.417	1.787
M DL (FT-K)	3928	12830	4018	14010
SOL (K/FT)	0.950		0.950	
M SOL (FT-K)	1118		1143	
M LL (FT-K)	3272	4859	4152	5957
M IMP (FT-K)	485	610	501	848
5/8 (M LL+I) (FT-K)	6428	8772	7755	10005
M_x (FT-K)	14817	28089	18788	31280
f_x DL NON-COMP (KSI)	13.8	21.2	13.3	21.2
f_x DL COMP (KSI)	3.4		3.3	
f_x 5/8 (LL+I) (KSI)	17.4	14.5	20.0	15.1
f_x OVERLOAD (KSI)	34.7	35.7	36.6	36.3
f_x (TOTAL) (KSI)	48.1	46.4	47.6	47.2
VR (K)	95.1		101.8	

INTERIOR GIRDER REACTION TABLE			
	S. ABUT. & N. ABUT.	PIERS 1 & 3	PIER 2
R DL (K)	182.7	500.0	320.7
R LL (K)	79.2	191.4	204.9
R IMP. (K)	11.2	25.1	24.7
R TOTAL (K)	273.1	716.5	550.3

- (1) M_x (APPLIED MOMENT) = $1.3[M DL + M SOL + 5/8 (M LL+I)]$
 (2) NON-COMPACT SECTION

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_x (TOTAL AND OVERLOAD).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_x (TOTAL AND OVERLOAD).

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.
 f_x (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3[M DL + M SOL + 5/8 (M LL+I)]$

f_x (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M DL + M SOL + 5/8 (M LL + I)$

M DL - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

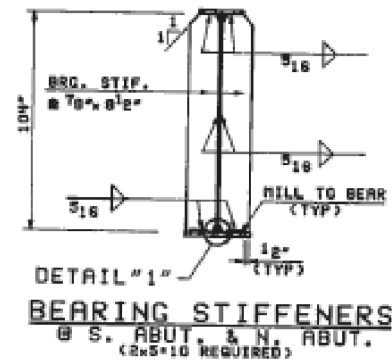
M SOL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M LL - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION

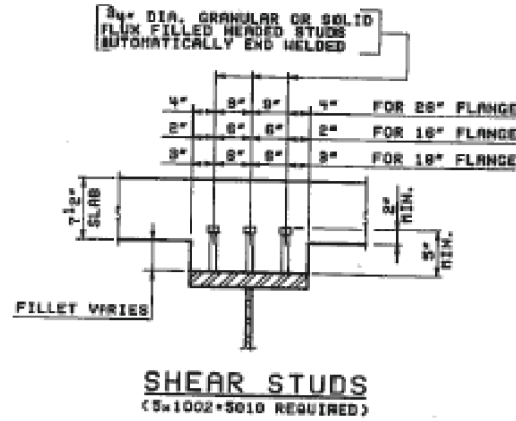
I - LIVE LOAD IMPACT

NOTES:

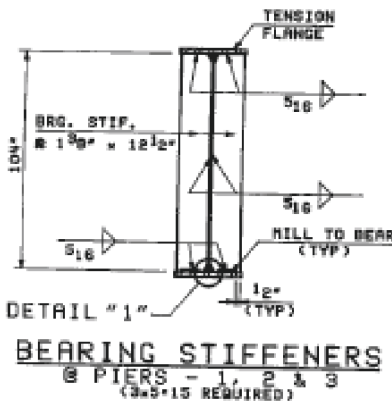
1. FOR GENERAL NOTES SEE DWG. NO. GD-02.
2. CLIP ALL STIFFENER PLATES 1" HORIZONTALLY AND 3/4" VERTICALLY AT WEB TO FLANGE CONNECTION OF ALL MAIN GIRDERS.



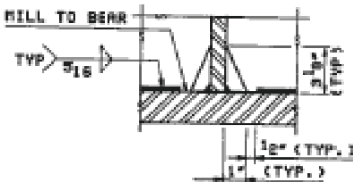
DETAIL #1"
BEARING STIFFENERS
 @ S. ABUT. & N. ABUT.
 (2x5x10 REQUIRED)



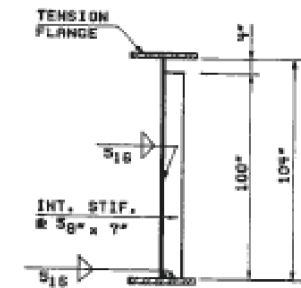
SHEAR STUDS
 (5x1002x5010 REQUIRED)



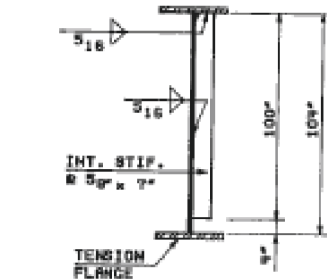
DETAIL #1"
BEARING STIFFENERS
 @ PIERS - 1, 2 & 3
 (3x5x15 REQUIRED)



DETAIL #1"



INTERMEDIATE STIFFENER
 INT. STIF. - 302
 (6x5x30 REQUIRED)



INTERMEDIATE STIFFENER
 INT. STIF. - 301
 (2x5x10 REQUIRED)



FLANGE @ THICKNESS TRANSITION

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
STEEL DETAILS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 398B-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMANN BOYNTON, INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-13	SCALE N.T.S.	DATE 4-17-93
		SHEET NO. 35

CHECKED BY: WRP
 DRAFTED BY: SBR
 ESTIMATED BY: MUR
 CHECKED BY: SBR

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	14
				CONTRACT NO. 64J52
ILLINOIS				