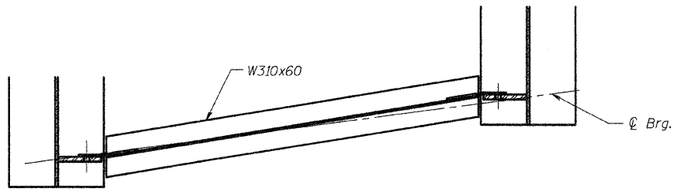
2/23/2009 11:51:35 AM

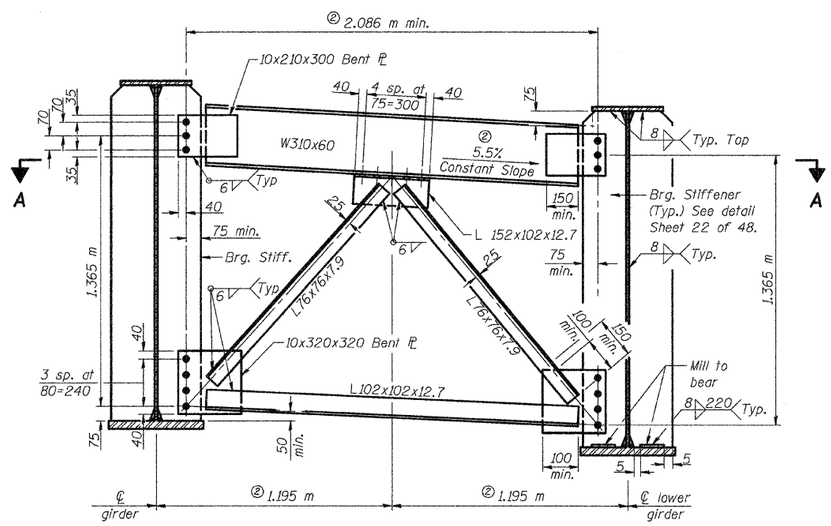
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. P. 310	*	MADISON	239	145
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 23
48 SHEETS

* 60-15HB-1 CONTRACT NO. 76635



SECTION A-A

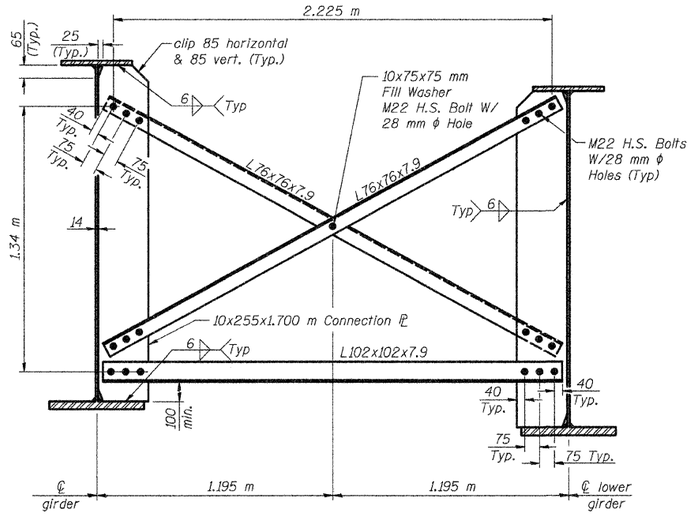


Note: All Bolts are M22 H.S. Bolts with 28 mm ϕ holes Two hardened washers shall be required over all 28 ϕ holes in cross frame connections.

TYPICAL END CROSS FRAME, CF1

20 Required

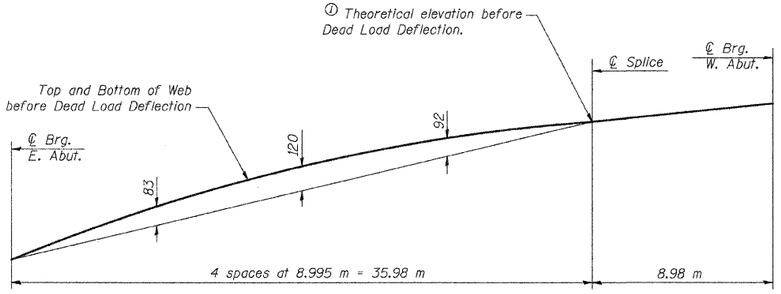
Note: Work this sheet with sheet 22 of 48.



Note: Detail 28 mm ϕ holes for all M22 H.S. bolts Two hardened washers shall be required over all 28 mm ϕ holes in cross frame connections.

TYPICAL INTERIOR CROSS FRAME, CF

60 Required



CAMBER DIAGRAM

S.B. AND N.B. STRUCTURES

INTERIOR GIRDER MOMENT TABLE		0.5 Span
Is	(10^6 mm⁴)	24,220
Ic (n)	(10^6 mm⁴)	59,972
Ic (3n)	(10^6 mm⁴)	42,050
Ss	(10^3 mm³)	34,804
Sc (n)	(10^3 mm³)	46,620
Sc (3n)	(10^3 mm³)	42,439
ℙ	(kN/m)	15.57
Mℙ	(kN·m)	3,912
sℙ	(kN/m)	7.24
Msℙ	(kN·m)	1,829
M℄	(kN·m)	2,324
M (Imp)	(kN·m)	426
$5/3[M℄+M(Imp)]$	(kN·m)	4,583
Ma	(kN·m)	13,422
③ Mu	(kN·m)	18,010
fsℙ non-comp	(MPa)	112
fsℙ (comp)	(MPa)	43
$fs\,5/3$(℄+Imp)	(MPa)	98
fs (Overload)	(MPa)	254
VR	(kN)	275

③ Compact, Braced Section

INTERIOR GIRDER REACTION TABLE		Abutments
Rℙ	(kN)	508
R℄	(kN)	232
Imp.	(kN)	43
R (Total)	(kN)	783

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment)=1.3[Mℙ + Msℙ + 5/3(M℄ + Mimp)].

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.50.1.1.

fs (Overload) is the sum of the stresses due to Mℙ + Msℙ + 5/3(M℄ + Mimp).

TOP OF WEB ELEVATIONS

(For Fabrication Only)

	Girder #13	Girder #14	Girder #15	Girder #16	Girder #17	Girder #18	Girder #19	Girder #20	Girder #21	Girder #22	Girder #23	Girder #24
℄ Brg. E. Abut.	196.127	196.003	195.880	195.756	195.633	195.509	195.735	195.612	195.489	195.366	195.242	195.119
℄ Splice	197.087	196.963	196.839	196.715	196.591	196.467	196.709	196.585	196.462	196.338	196.214	196.090
℄ Brg. W. Abut.	197.219	197.095	196.971	196.847	196.723	196.599	196.844	196.720	196.596	196.472	196.348	196.224

DESIGNED	ADL
CHECKED	WLW
DRAWN	ADL/DGM
CHECKED	WLW

GIRDER DETAILS
FAP RTE. 310 (IL RTE. 255) OVER CH ROUTE 4 (HUMBERT ROAD)
SECTION 60-15HB-1
MADISON COUNTY
STATION 38+829.909
SN 060-0308 (NB) & 060-0309 (SB)

Klingner & Assoc., P.C.

p:\00files\000024\dHUMBERT-Bridge\Bridge_Plans\060-0308girder-sdgn