

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 351	3277R	COOK	66	29
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
Contract No. 62206				

INTERIOR BEAM MOMENT TABLE		
	0.5 Span 1	0.5 Span 2
I (in ⁴)	23200	16700
S (in ³)	1170	858
Q (k/ft.)	1.63	1.52
M _l (k)	547.62	372.38
M _l (k)	822.43	668.25
M _{Impact} (k)	539.01	446.69
M _{ecc} (k)	74.77	60.75
M _{Total} (k)	1983.83	1548.07
F _b (k.s.i.)	20.35	21.65
F _b (k.s.i.)	27.50	27.50
($\frac{1}{8}$ + I) Deflection (in.)	0.976	0.810
Allowable ($\frac{1}{8}$ + I) Deflection (in.)	0.971	0.829

I and S are the moment of inertia and section modulus of the steel section used in computing bending stress, f_b .

M_l is the live load moment due to the Cooper E80 loading or the Alternate loading.

M_{Impact} is the impact moment due to equipment with hammer blow.

M_{ecc} is the moment due to the eccentricity of the track relative to the beam group.

f_b is the total bending stress due to M_{Total} .

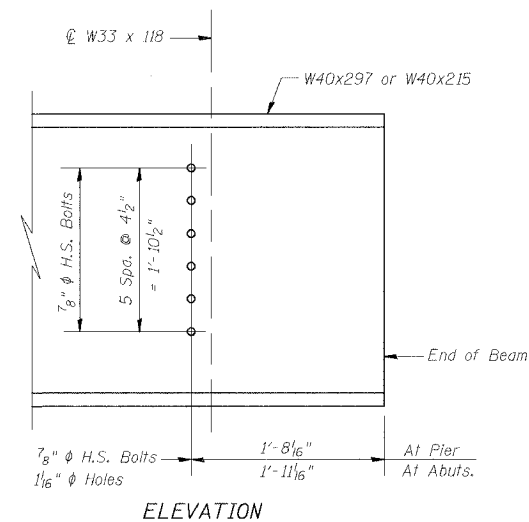
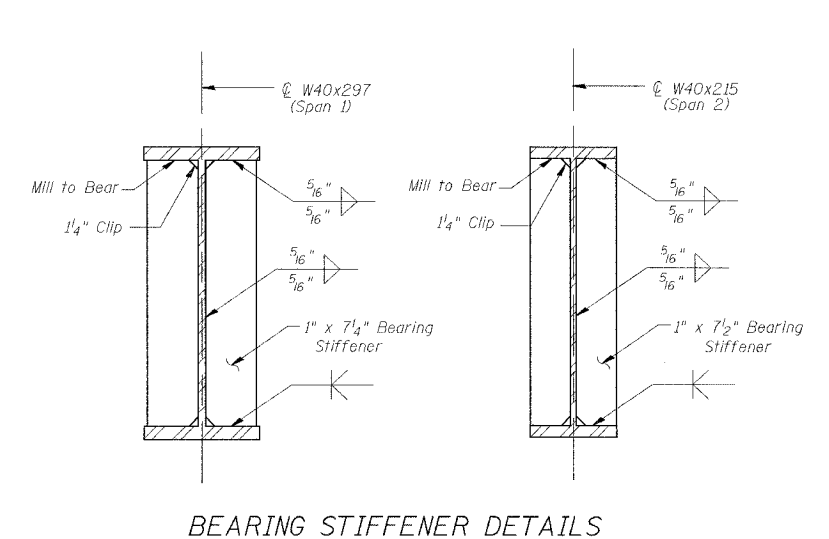
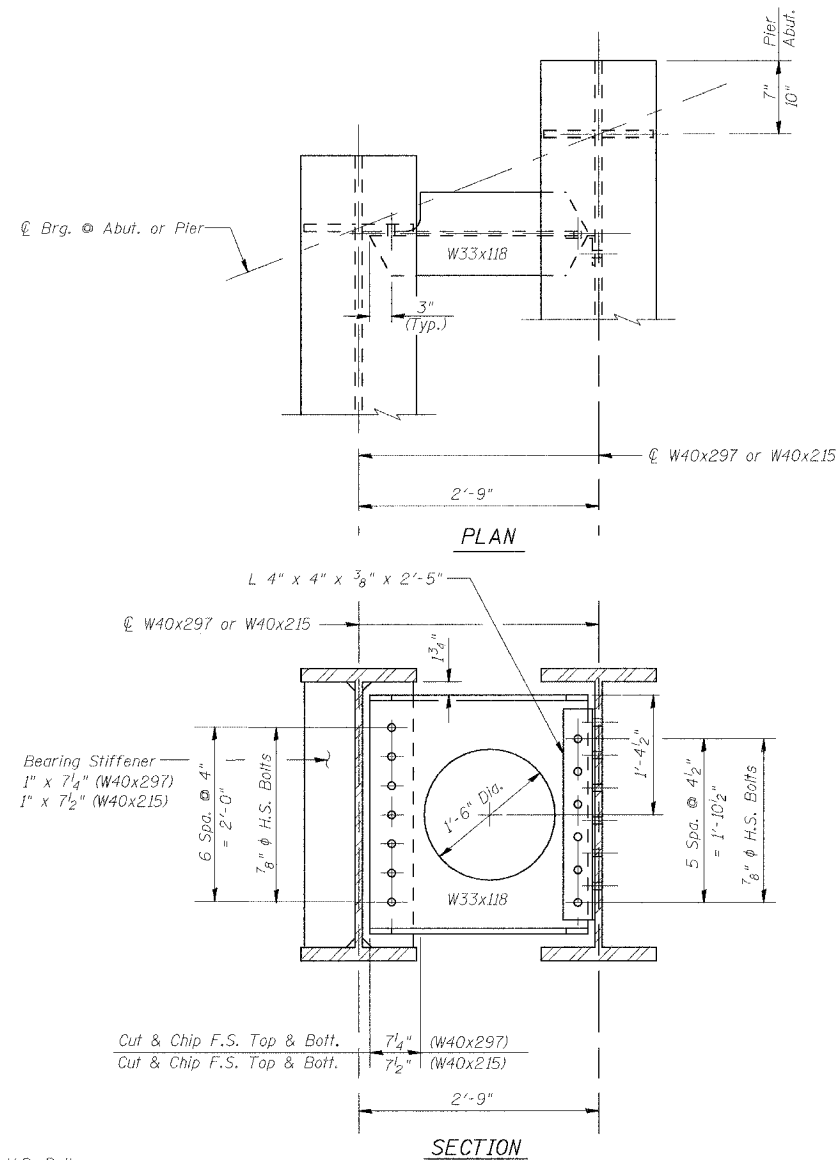
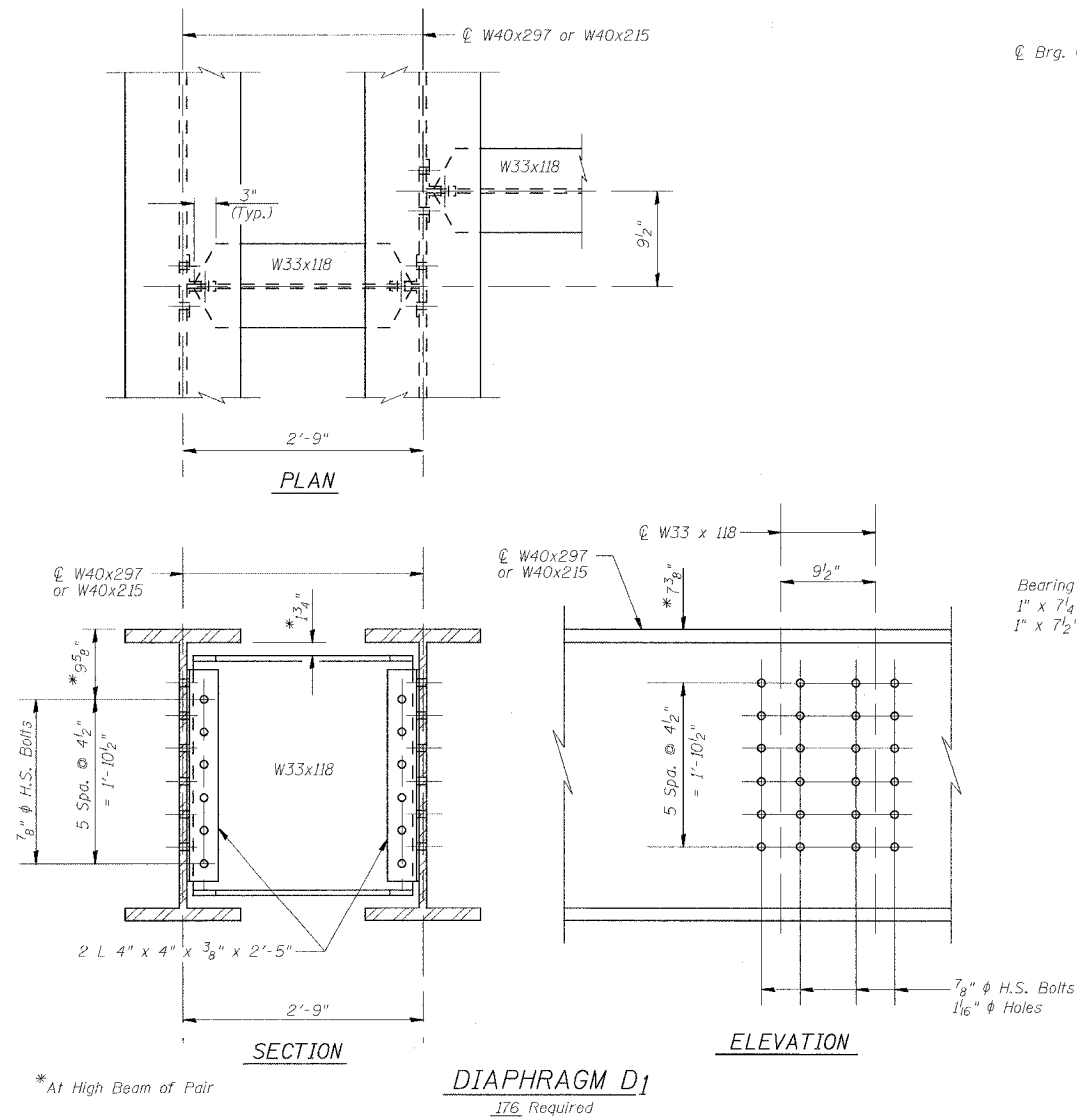
F_b is the maximum allowable bending stress computed according to AREMA.

REACTION TABLE		
	Span 1	Span 2
R _l (k)	42.31	33.69
R _t (k)	71.31	65.49
R _{Impact} (k)	46.73	43.78
R _{ecc} (k)	6.48	5.95
R _{Total} (k)	166.83	148.91

*TOP OF BEAM ELEVATIONS

Location	Beams 1 Thru 17
@ Brg. N. Abut.	618.90
@ N. Brg. Pier	619.42
@ S. Brg. Pier	619.42
@ Brg. S. Abut.	618.98

*For Fabrication only



BEAM DETAILS			Sheet No.
Date 3/27/06	Designed TDN	CN RAILROAD BRIDGE	
Revisions	Drawn BKN	OVER U.S. 6 (159TH STREET)	
	Checked DCS	F.A.P. RTE. 351 SECTION 3277R	
	Approved KWB	COOK COUNTY	
		STATION 92+24.25	
		STRUCTURE NO. 016-2754	
Prepared By: URS	3040 N. University Ave., Suite 1	of 30	
	Decatur, IL.	URS Job No. 36430825	