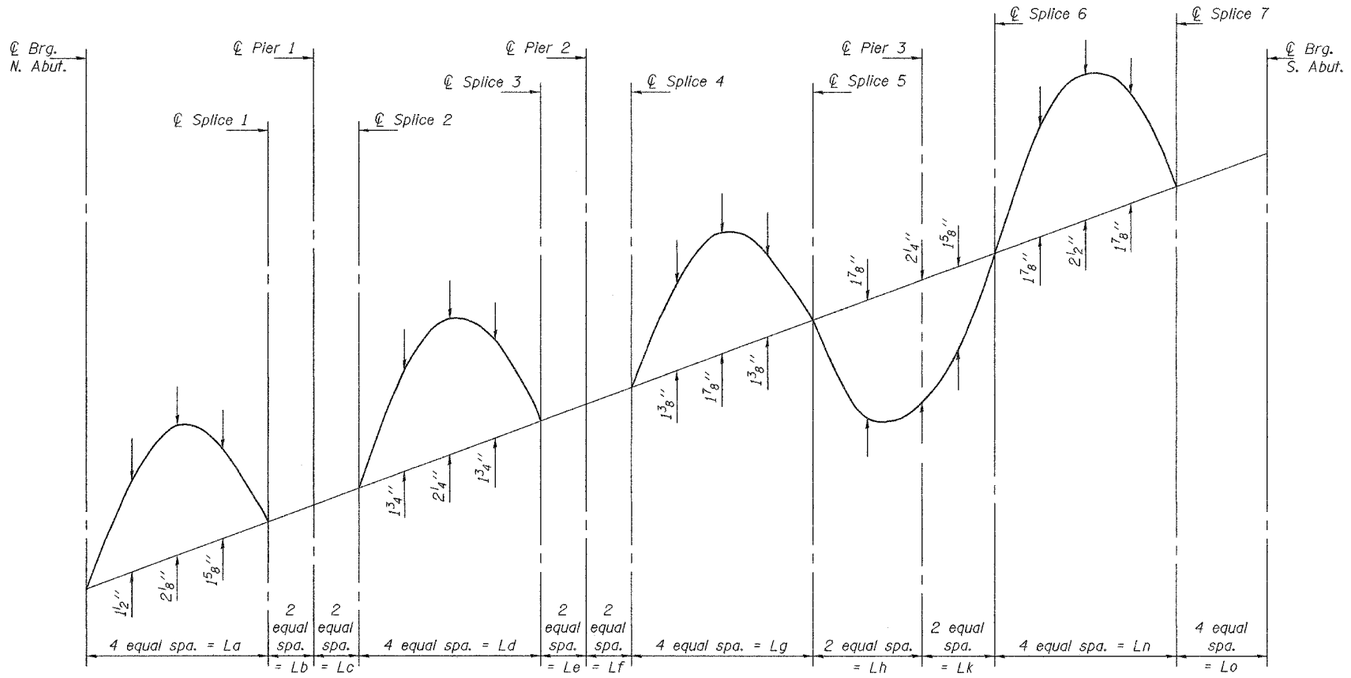
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 315	(IBBRY -1)BR	FULTON		188
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24
46 SHEETS

Contract #88753

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CAMBER DIAGRAM

For "L" dimensions, see table on sheet 20 of 45.

INTERIOR GIRDER MOMENT TABLE								
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.4 Sp. 3	Pier 3	0.6 Sp. 4
Is	(in^4)	29884	67109	29884	67109	37072	275380	165041
Ic (n)	(in^4)	73877	———	73877	———	84359	———	307420
Ic (3n)	(in^4)	53373	———	53373	———	60986	———	227463
Ss	(in^3)	1063	2139	1063	2139	1272	5828	4053
Sc (n)	(in^3)	1486	———	1486	———	1746	———	5029
Sc (3n)	(in^3)	1346	———	1346	———	1569		4579
S℄	(in^3)	32.7	111	32.7	111	42.7	216	141
ℚ	(k/ft.)	0.874	1.57	0.874	1.57	0.925	1.91	1.17
Mℚ	('k)	876	3435	743	2775	394	10190	4702
s℄	(k/ft.)	0.523	———	0.523	———	0.523	———	0.523
Ms℄	('k)	631	———	567	———	526	———	2280
M℔	('k)	1140	1376	1206	1557	1312	3132	2997
M (Imp)	('k)	281	272	238	308	259	619	592
$⅗$[M℔+M(Imp)]	('k)	2368	2747	2407	3108	2618	6252	5982
Ma	('k)	5038	8036	4832	7648	4600	21374	16853
Mb℄	('k)	8	11	7	10	6	20	16
fs℄ non-comp	(k.s.i.)	9.9	19.3	8.4	15.6	3.7	21.0	13.9
fs℄ (comp)	(k.s.i.)	5.6	———	5.1	———	4.0	———	6.0
fs$⅗$(℔+Imp)	(k.s.i.)	19.1	15.4	19.4	17.4	18.0	12.9	14.3
f℄	(k.s.i.)	2.9	1.2	2.6	1.1	1.7	1.1	1.4
fs (Overload)	(k.s.i.)	34.6	34.7	32.9	33.0	25.7	33.9	34.2
fs (Total)	(k.s.i.)	45.0	45.1	42.7	42.9	33.5	44.0	44.4
Fcr (Overload)	(k.s.i.)	47.5	40	47.5	40	47.5	40	47.5
VR	(k)	68	———	77	———	91	———	96
Fcr	(k.s.i.)	49.0	47.5	49.0	47.5	49.4	47.9	49.6

INTERIOR GIRDER REACTION TABLE						
		N. Abut.	Pier 1	Pier 2	Pier 3	S. Abut.
Rℚ	(k)	66	242	218	446	152
R℔	(k)	43	93	98	131	63
Imp.	(k)	11	23	24	32	16
R (Total)	(k)	120	358	340	609	231

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

Ic (n) & 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).

S℄ is the section modulus for one flange plate for lateral flange bending.

Mℚ - Moment due to dead loads on non-composite section.

Ms ℚ - Moment due to dead loads on composite section.

M℔ - Moment due to live load on non-composite or composite section.

M(Imp) - Moment due to live load impact on non-composite or composite section.

Ma (Applied Moment) = 1.3 [Mℚ + Ms ℚ + ⅗(M℔ + M(Imp))].

Mb℄ is the lateral bending moment for one flange plate (factored).

fs ℚ (non-comp) is the stress due to Mℚ.

fs ℚ (comp) is the stress due to Ms ℚ.

fs (Overload) is the sum of the stresses due to Mℚ + Ms ℚ + ⅗(M℔ + M(Imp)).

fs $⅗$ (M℔ + M(Imp)) is $⅗$ times the stresses due to M℔ + M(Imp).

f℄ is the calculated normal stress at the edge of the flange due to lateral bending (factored).

fs (Total) is the sum of the stresses due to 1.3[Mℚ + Ms℄ + $⅗$(M℔ + M(Imp))].

Fcr (Overload) is the critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5.

VR is the maximum ℔ + impact shear range in span.

Fcr is the critical average flange stress computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Sections 5.2, 5.3 and 5.4.

M℔ and R℔ includes the effects of centrifugal force and superelevation.

DESIGNED	MJT
CHECKED	FT
DRAWN	h.t. parsons
CHECKED	MJT/FT

May 16, 2005

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
F.A.P. RTE. 315 - SEC. (18BRY-1)BR
FULTON COUNTY
STATION 74+09.000
STRUCTURE NO. 029-0068

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