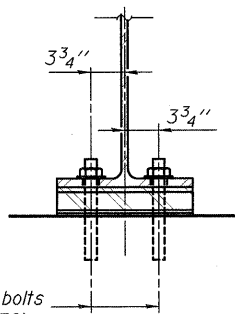


ELEVATION AT ABUTMENT



SECTION A-A

FIXED BEARING

1/8" elastomeric neoprene leveling mat according to the material properties of Article 1052.02 of the Standard Specifications. Cost included with Structural Steel.

1" diameter x 12" anchor bolts (ASTM F1554 Grade 36) with 2 1/4" x 2 1/4" x 5/16" plate washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" diameter holes in bearing plate.

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

Beam No.	℄ Brg. N. Abut.	℄ Brg. S. Abut.
1	504.516	504.538
2	504.632	504.646
3	504.726	504.732
4	504.814	504.811
5	504.817	504.807
6	504.738	504.720
7	504.651	504.625
8	504.543	504.509

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

All bearing plates shall conform to the requirements of AASHTO M 270, Grade 50.

Notes:

Anchor bolts at fixed bearings may be built into the masonry.

INTERIOR GIRDER MOMENT TABLE		
0.5 Span		
I_s	(in ⁴)	8,230
$I_c(n)$	(in ⁴)	18,447
$I_c(3n)$	(in ⁴)	13,427
S_s	(in ³)	541
$S_c(n)$	(in ³)	728
$S_c(3n)$	(in ³)	658
DC1	(k/')	0.76
M _{DC1}	(k)	568
DC2	(k/')	0.11
M _{DC2}	(k)	82
DW	(k/')	0.25
M _{DW}	(k)	187
M _{L + IM}	(k)	974
M _u (Strength I)	(k)	2,798
$\phi_r M_n$	(k)	3,360
f_s DC1	(ksi)	12.6
f_s DC2	(ksi)	1.5
f_s DW	(ksi)	3.4
f_s 1.3(L+IM)	(ksi)	20.9
f_s (Service II)	(ksi)	38.4
V _r	(k)	22.6

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{L + IM}

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{L + IM}

V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	32

INTERIOR GIRDER REACTION TABLE		
HL93 Loading		
Abutment		
R _{DC1}	(k)	29.4
R _{DC2}	(k)	4.4
R _{DW}	(k)	9.7
R _{L + IM}	(k)	67.8
R _{Total}	(k)	111.3

DESIGNED	B.G.H.
CHECKED	L.D.G.
DRAWN	K.H.L.
CHECKED	B.G.H.

STEEL DETAILS

SHEET NO. 16	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	328	(4BR-1)B	CLAY	42	34
21 SHEETS	S.N. 013-0039		CONTRACT NO. 74310		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		