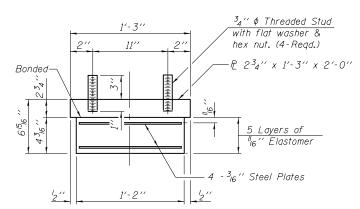


TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note:

Shim plates shall not be placed under Bearing Assembly.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. 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.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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

Side retainers and other steel members required for

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

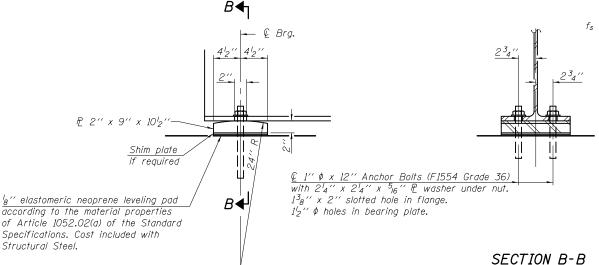
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50. Two $^{\prime}_8$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

INTERIOR GIRDER MOMENT TABLE					
		0.4 Sp. 1 or	Pier 1 or	0.5 Span 2	
		0.6 Sp. 3	Pier 2		
$I_{\mathcal{S}}$	(in ⁴)	5770	5770	5770	
$I_c(n)$	(in4)	15654		15654	
$I_c(3n)$	(in4)	11673		11673	
$I_c(cr)$	(in4)	1	<i>8133</i>	-	
Ss	(in ³)	<i>381</i>	<i>381</i>	381	
Sc(n)	(in ³)	559		559	
Sc(3n)	(in³)	508		508	
Sc(cr)	(in³)	-	442	-	
DC1	(k/')	0.964	0.964	0.964	
M DC1	('k)	102	- 461	330	
DC2	(k/')	0.150	0.150	0.150	
M DC2	('k)	15.9	- 71 . 7	<i>51.3</i>	
DW	(k/')	0.390	0.390	0.390	
Mow	('k)	41.3	- 186	134	
M4 + IM	('k)	557	-664	690	
Mu (Strength I)	('k)	1183	-2107	1884	
$\phi_f M_D$	('k)	2929	- 2227	2744	
fs DC1	(ksi)	<i>3.2</i>	<i>- 14.5</i>	10.4	
fs DC2	(ksi)	0.4	-2.0	1.2	
f _s DW	(ksi)	1.0	- 5.0	3.2	
fs (4+IM)	(ksi)	12.0	- 18.0	14.8	
fs (Service II)	(ksi)	21.8	- 44.9	36.0	
0.95R _h Fyf	(ksi)	47.5	- 47.5	47.5	
fs (Total)(Strength I)	(ksi)				
$\phi_f F_n$	(ksi)				
V_f	(k)	<i>1</i> 6.9	28.9	18.1	

INTERIOR	GIR	DER REACTI	ON TABLE
		Abuts.	Piers
R <i>dci</i>	(k)	14.7	72.3
R _{DC2}	(k)	2.3	11.3
r_{DW}	(k)	6.0	29.2
94 + IM	(k)	72.3	115.0
R Total	(k)	95.3	227.8

- 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 (in.4 and in.3).
- $I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing $f_s(Total-Strength\ I,\ and\ Service\ II)$ in uncracked sections, due to short-term composite live loads (in.4 and in.3).
- $I_c(3n)$, $S_c(3n)$: 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) in uncracked sections, due to
- long-term composite (superimposed) dead loads (in.4 and in.3). $I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength and Service II) in cracked sections, due to both short-term composite live loads and long-term composite dead loads (in.4 and in.3).
 - 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_{k} IM: Un-factored live load moment plus dynamic load allowance (impact) ((kip-ft.).
- Mu (Strength I): Factored design moment (kip-ft.).
 - 1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M& + IM
 - $\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
 - fs DCI: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

 MDCI / Snc
 - fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 - MDC2/ $S_c(3n)$ or MDC2/ $S_c(cr)$ as applicable.
 - fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 - Mpw / Sc(3n) or Mpw / Sc(cr) as applicable. f_s (ξ + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
 - $M + IM / S_c(n)$ or $M + IM / S_c(cr)$ as applicable.
- f_s (Service II); Sum of stresses as computed below (ksi).
 - fsDc1+ fsDc2+ fsDW+ 1.3 fs ($\frac{1}{4}$ + IM)
 0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s (Total)(Strength 1): Sum of stresses as computed below on non-compact section (ksi).
 - section (ksi). 1.25 (fsDci+ fsDc2) + 1.5 fsDw + 1.75 fs ¼ + im
 - $\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 or 6.10.8 (ksi).
 - V_f : Maximum factored shear range in span computed according to Article 6.10.10.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

€ 1½" \$ Hole

ELEVATION AT ABUTMENT

FIXED BEARING

Item Unit Total Elastomeric Bearing Each 14 Assembly, Type I Each 28 Anchor Bolts, I'' Each 28 Anchor Bolts, I'a'' Each 28

BILL OF MATERIAL

DESIGNED -VPT REVISED USER NAME = piersonbr SECTION COUNTY **BEARING DETAILS** STATE OF ILLINOIS CHECKED TF REVISED PLOT SCALE :

FINGINE FRING INC.
PLOT DATE : 7/29/2013 \$TIME\$ 74 (57-20HB-1)BR-1 MCLEAN 440 198 **STRUCTURE NO. 057-0252** DRAWN REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 70570 SHEET NO. 17 OF 26 SHEETS CHECKED -BAS REVISED