INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp. 1
I_s	(in^4)	6,710
$I_{c(n)}$	(in^4)	17,995
$I_{c(3n)}$	(in^4)	13,056
$I_{c(cr)}$	(in^4)	-
S_s	(in^3)	406
$S_{c(n)}$	(in^3)	598
$S_{c(3n)}$	(in^3)	537
$S_{c(cr)}$	(in^3)	-
DC1	(k/')	0.791
M_{DC1}	('k)	450
DC2	(k/')	0.150
M_{DC2}	('k)	85
DW	(k/')	0.267
M_{DW}	('k)	152
M_{L+IM}	('k)	888
M_u (Strength I)	('k)	2,451
$\phi_f M_n$	('k)	3,040
f_s DC1	(ksi)	13.5
f_s DC2	(ksi)	1.9
f_s DW	(ksi)	3.4
f_s (L+IM)	(ksi)	17.8
f_s (Service II)	(ksi)	41.9
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_f	(k)	15.3

INTERIOR GIRDER REACTION TABLE		
		Abut.
R_{DC1}	(k)	26.7
R_{DC2}	(k)	5.1
R_{DW}	(k)	9.0
R_{L+IM}	(k)	74.1
R_{Total}	(k)	114.9

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 I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) 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_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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

$\phi_f M_n$: 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).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_{c(3n)}$ or $M_{DC2} / S_{c(cr)}$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_{c(3n)}$ or $M_{DW} / S_{c(cr)}$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_{c(n)}$ or $M_{DW} / S_{c(cr)}$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s\ (L+IM)$

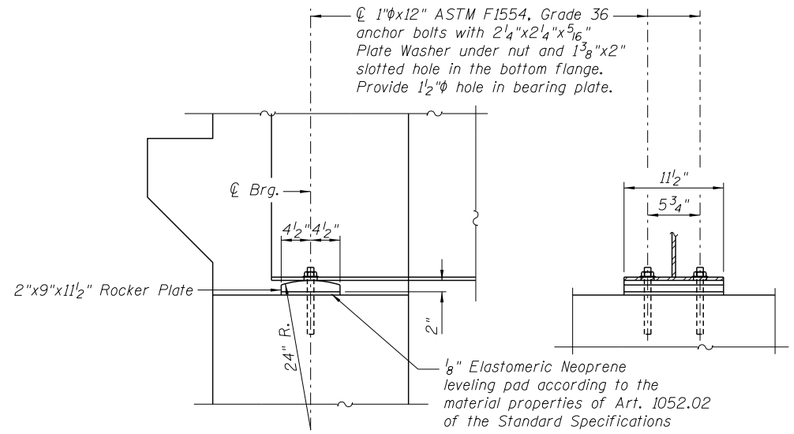
$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s\ (L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
M_{L+IM} and R_{L+IM} include the effects of centrifugal force and superelevation.



ABUTMENT BEARING DETAILS

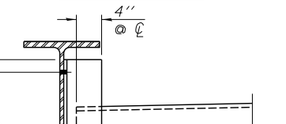
Notes:
Anchor bolts shall be ASTM F1554, Grade 36 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.



SECTION A-A

INTERIOR DIAPHRAGM

(25 Required)

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

Notes:
Two hardened washers required for each set of oversized holes.
*Alternate channels C12X30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
**3/4"ϕ HS bolts, 15/16"ϕ holes.

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ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = SAW	DESIGNED - PMM	REVISED -
	CHECKED - DAZ	REVISED -
PLOT SCALE = 0:2.0000 '' / in.	DRAWN - SAW	REVISED -
PLOT DATE = 6/12/2013	CHECKED - LAS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
S.N. 098-0119
SHEET NO. 13 OF 19 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
200	141B-2	WHITESIDE	77	38
		CONTRACT NO. 64D81		
	ILLINOIS FED. AID PROJECT			