

INTERIOR GIRDER MOMENT TABLE		
		0.5
I_s	(in^4)	66,611
$I_c(n)$	(in^4)	157,218
$I_c(3n)$	(in^4)	112,051
S_s	(in^3)	2,119
$S_c(n)$	(in^3)	2,872
$S_c(3n)$	(in^3)	2,597
DC1	(k/ft)	1,169
M _{DC1}	(k)	3,549
DC2	(k/ft)	0.145
M _{DC2}	(k)	442
DW	(k/ft)	0.385
M _{DW}	(k)	1,171
M _{LL + IM}	(k)	3,180
M _u (Strength I)	(k)	12,310
$\phi_r M_n, \phi_r M_{nc}$	(k)	13,701
f_s DC1	(ksi)	20.1
f_s DC2	(ksi)	2.1
f_s DW	(ksi)	5.3
f_s 1.3(LL + IM)	(ksi)	17.3
f_s (Service II)	(ksi)	44.8
V _f	(k)	31.6

* Compact sections

INTERIOR GIRDER REACTION TABLE		
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R _{DC1}	(k)	90.1
R _{DC2}	(k)	11.3
R _{DW}	(k)	30.1
R _{LL + IM}	(k)	112.3
R _{Total}	(k)	243.8

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 ($F_y=36ksi$). 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.

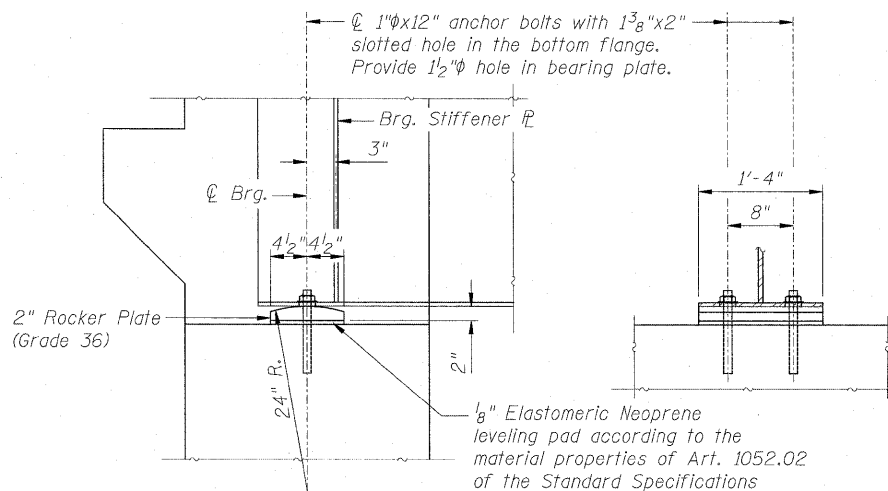
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

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).

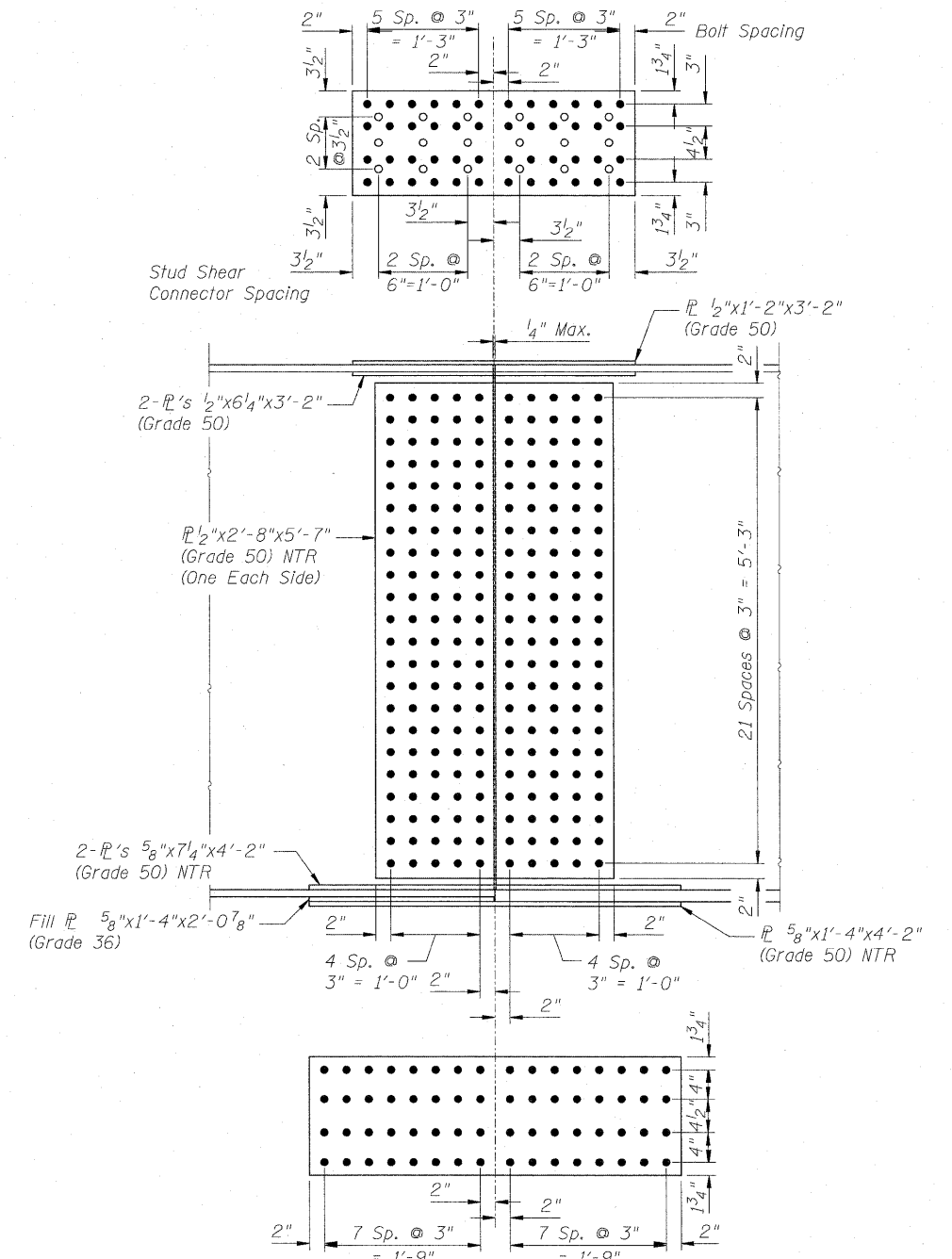
$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in^4 and in^3).

$I_c(3n), S_c(3n)$: 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) due to 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_{LL + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.).
 $1.25(M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{LL + IM}$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
 f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{LL + IM}$
V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



BEARING DETAILS



FIELD SPLICE DETAIL

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 inch diameter, holes 1 5/16 inch diameter.

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	6,426
Anchor Bolts, 1"	Each	56

STRUCTURAL STEEL DETAILS 1
INTERSTATE 70 OVER 1ST STREET
FAI-70
SECTION 82-1-2HB
ST. CLAIR COUNTY
STA. 192+97.45
STRUCTURE NO. 082-0312 (EB)
STRUCTURE NO. 082-0313 (WB)

ZROKA Engineering, P.C.
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FILE NAME = ... \DBTR1-0820312-0820313-76C50-017-Steel	USER NAME = SAW	DESIGNED - LAS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS 1	F.A.P. RTE. 998	SECTION 82-1-2HB	COUNTY ST. CLAIR	TOTAL SHEETS 72	SHEET NO. 47
PLOT SCALE = 1/8" = 1'-0"	PLOT DATE = 2/25/2011	DRAWN - SAW	REVISED -			SN 082-0312 & 082-0313	CONTRACT NO. 76C50			
CHECKED - LAS	DATE - 3-18-11	REVISOR -	REVISOR -			FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT			
SCALE: NONE	SHEET NO. 17 OF 30 SHEETS	STA. TO STA.								