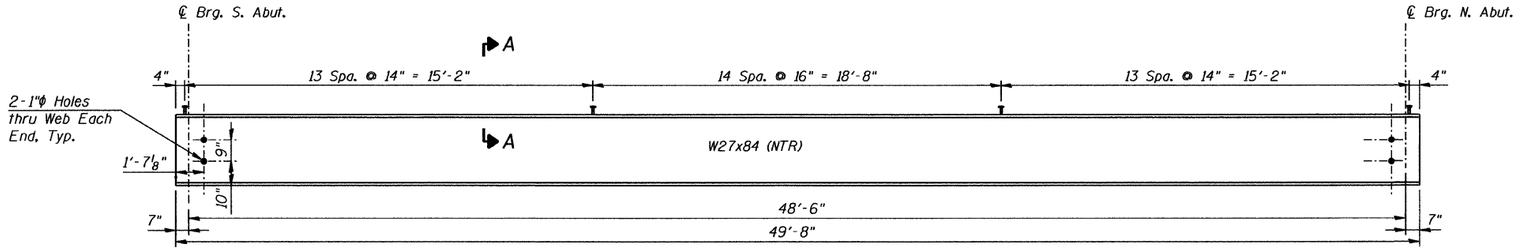
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TYPICAL BEAM ELEVATION

INTERIOR BEAM MOMENT TABLE		0.5 Span
I_s	(in^4)	2,850
I_c (n)	(in^4)	9,566
I_c (3n)	(in^4)	7,106
S_s	(in^3)	213
S_c (n)	(in^3)	354
S_c (3n)	(in^3)	319
DC1	(k/')	0.702
M_{DC1}	('k)	206
DC2	(k/')	0.150
M_{DC2}	('k)	44.1
DW	(k/')	0.267
M_{DW}	('k)	78.5
M_{L+Imp}	('k)	514
M_u (Strength I)	('k)	1,324
$\phi_f M_n$	('k)	1,941
f_s DC1	(ksi)	11.6
f_s DC2	(ksi)	1.66
f_s DW	(ksi)	2.95
f_s 1.3(L+I)	(ksi)	22.5
f_s (Service II)	(ksi)	38.7
V_f	(k)	18.4

INTERIOR BEAM REACTION TABLE HL93 Loading		Abut.
R_{DC1}	(k)	17.02
R_{DC2}	(k)	3.64
R_{DW}	(k)	6.47
R_{L+Imp}	(k)	62.27
R_{Total}	(k)	89.40

TOP OF BEAM ELEVATIONS (For Fabrication only)	℄ Brg. S. Abut.	℄ Brg. N. Abut.
Beam 1	629.71	629.81
Beam 2	629.82	629.92
Beam 3	629.91	630.02
Beam 4	629.91	630.02
Beam 5	629.82	629.92
Beam 6	629.71	629.81

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.

$I_c(n)$, $S_c(n)$ — Composite moment of intertia 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.

$I_c(3n)$, $S_c(3n)$ — 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.

DC1 — Un-factored non-composite dead load.

M_{DC1} — Un-factored moment due to non-composite dead load.

DC2 — Un-factored long-term composite (superimposed excluding future wearing surface) dead load.

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

DW — Un-factored long-term composite (superimposed future wearing surface only) dead load.

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

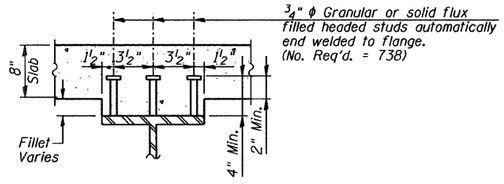
M_{LL+Imp} — Un-factored live load moment plus dynamic load allowance (impact).

M_u(Strength I) — Factored design moment.
$1.25\ (M_{DC1} + M_{DC2}) + 1.5M_{DW} + 1.75M_{LL+Imp}$

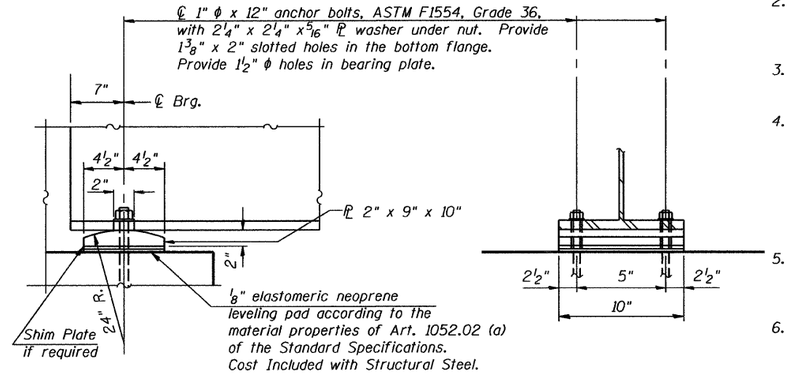
$\phi_f M_n$ — Compact composite positive moment capacity computed according to Article 6.10.7.1.

f_s(Service II) — Sum of stresses as computed from the moments below.
$M_{DC1} + M_{DC2} + M_{DW} + 1.3M_{LL+Imp}$

V_f — Factored shear range computed according to Article 6.10.10.



SECTION A-A



BEARING AT ABUTMENT

NOTES

1. Work this Sheet with Sheet SB14 of 23.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
3. All Structural Steel on this Sheet shall be AASHTO M270 Grade 50W Steel.
4. 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.
5. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
6. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	738
Anchor Bolts, 1"	Each	24

DESIGNED	J.Z.
CHECKED	E.E.J.
DRAWN	R.B.H.
CHECKED	E.E.J.

GRÄEF
8501 W. Higgins Road; Suite 280
Chicago, Illinois 60631
(773) 399-0112

BEAM ELEVATION, BEARINGS & TABLES

Illinois Rte. 84 Over Duke Creek

STATION 336+42.00 STRUCTURE NO. 043-0079

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SB15 OF 23 SHEETS	308	103BR-3	JO DAVIESS	126	76
			CONTRACT NO. 64B26		
	10-15-2010	ILLINOIS	FED. AID PROJECT		