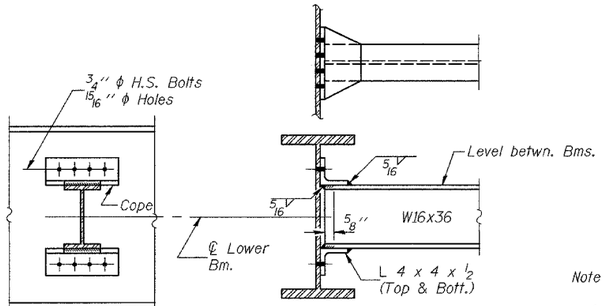
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 692	12-1BR -1	MADISON		36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
20 SHEETS

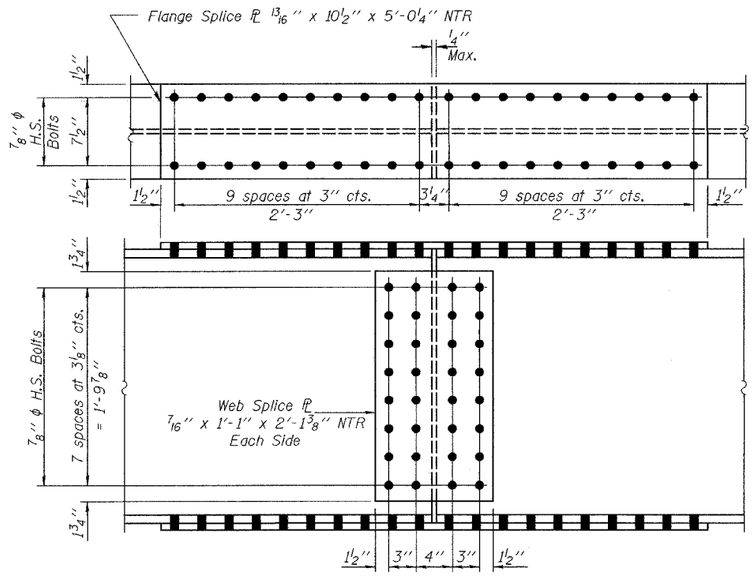
Contract #76386



DIAPHRAGM D
55 Required

Note: Two hardened washers shall be required over all oversize holes for diaphragms.

Note A:
Use $^{13}/_{16}$" x 1$^{1}/_{2}$" slotted holes in top and bottom connection angles 4 x 4 x $^{1}/_{2}$ at East side of Beam 4 only. Provide $^{5}/_{16}$" plate washers for slotted holes. Bolts shall be finger-tightened prior to the deck pour for Stage II Construction and then be fully tightened after completion of the deck pour for Stage II Construction.



DETAIL OF SPLICE
"NTR" denotes members to which Notch Toughness Requirments are applicable.

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
Is	(in^4)	4470	4470	4470
Ic (n)	(in^4)	12275	-	12275
Ic (3n)	(in^4)	8981	-	8981
Ss	(in^3)	299	299	299
Sc (n)	(in^3)	450	-	450
Sc (3n)	(in^3)	405	-	405
Z	(in^3)	-	346	-
DC1	(k/')	0.691	0.691	0.691
M DC1	('k)	51.6	266.3	193.9
DC2	(k/')	0.150	0.150	0.150
M DC2	('k)	16.6	44.2	55.8
DW	(k/')	0.292	0.292	0.292
M DW	('k)	32.5	85.9	108.6
M ℄+Imp	('k)	388.7	320.9	617.4
Ma (Strength I)	('k)	814.2	1078.6	1555.4
Mr	('k)	2360.6	1441.7	2360.6
fs DC1	(ksi)	2.1	10.7	7.8
fs DC2	(ksi)	0.5	1.8	1.7
fs DW	(ksi)	1.0	3.4	3.2
fs 1.3(℄+I)	(ksi)	13.5	16.7	21.4
fs (Ser II)	(ksi)	17.1	32.6	34.1
Vsr	(k)	21.1	-	16.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs due to non-composite loads.
Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing fs due to short-term composite loads.
Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing fs due to long-term composite loads.
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
DC1 is the dead load acting on the non-composite section.
DC2 is the dead load acting on the long-term composite section.
DW is the dead load acting on the long-term composite section due to wearing surface.
Ma (Strength I)=1.25 M(DC1+DC2)+1.5 M DW +1.75 M(℄+Imp)
Mr is the full plastic moment capacity computed in accordance with 6.10.3.1.3 and 6.10.4.2.2.
fs (Service II) is the sum of the stresses due to DC1+DC2+DW+1.3(℄+Imp)
Vsr is the maximum shear range in the span (0.75℄ +Imp)

INTERIOR BEAM REACTION TABLE HL93 Loading			
		Abutment	Pier
R DC1	(k)	9.0	46.4
R DC2	(k)	2.3	9.8
R DW	(k)	4.4	19.0
R ℄	(k)	48.0	80.0
R Imp	(k)	12.8	16.1
R Total	(k)	76.5	171.3

TOP OF BEAM ELEVATIONS
For Fabrication Only

Location	℄ Brg. N. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Brg. Pier 2	℄ Splice 2	℄ Brg. S. Abut.
Beam #1	514.068	514.143	514.159	514.346	514.383	514.549
Beam #2	514.166	514.242	514.258	514.445	514.481	514.647
Beam #3	514.251	514.326	514.342	514.529	514.566	514.732
Beam #4	514.244	514.320	514.336	514.523	514.559	514.725
Beam #5	514.147	514.222	514.238	514.425	514.462	514.628
Beam #6	514.036	514.112	514.128	514.315	514.351	514.517

DESIGNED	T. Kurtenbach
CHECKED	Alan Johnson
DRAWN	Paul Summer
CHECKED	TLK AMJ

April 22, 2005
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
F.A.P. ROUTE 692 - SECTION 12-1BR-1
MADISON COUNTY
STATION 1440+97.5
STRUCTURE NO. 060-0335

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