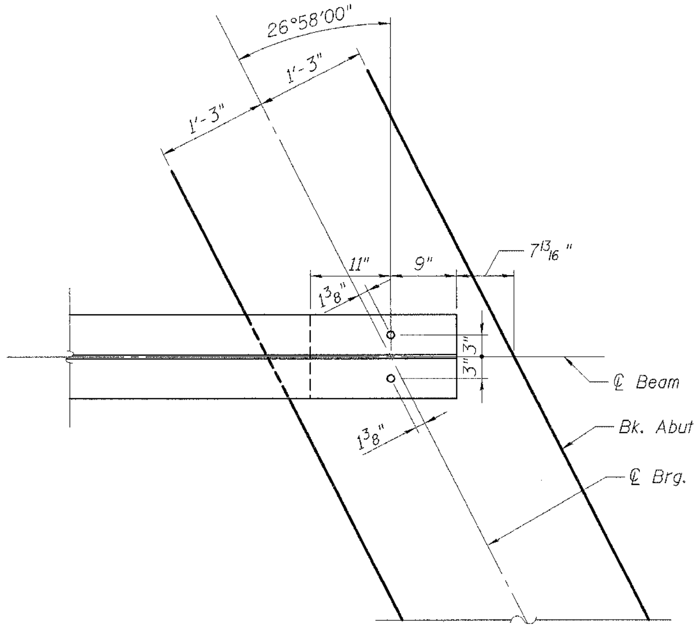
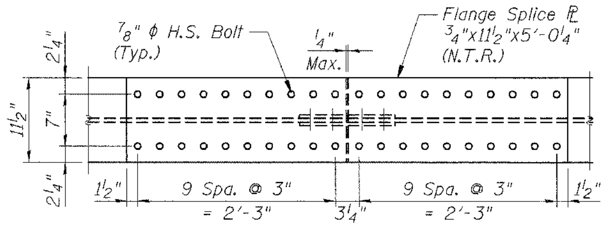
CONTRACT NO. 60A67

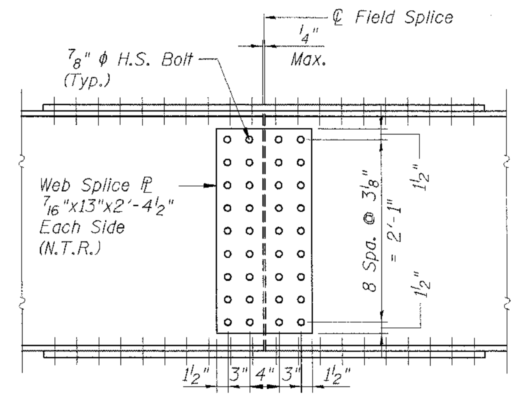
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2005-063 I	WILL	50	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN AT ABUTMENT



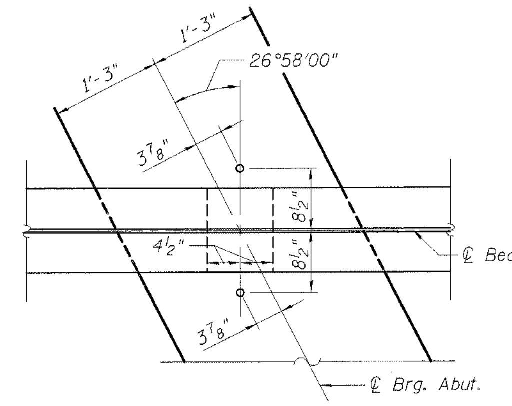
TOP & BOTTOM FLANGE



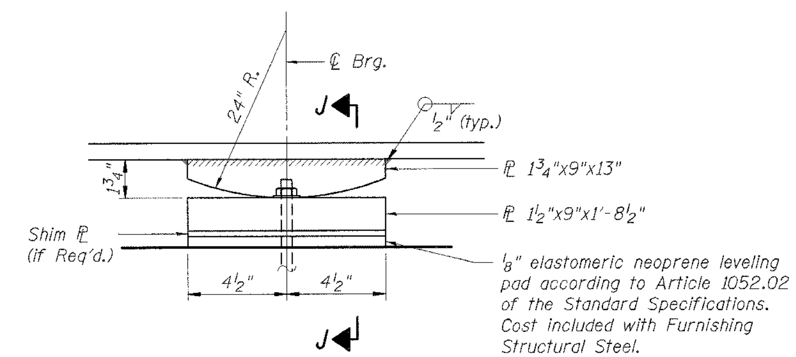
ELEVATION

SPLICE DETAILS

All bolts in splices shall be AASHTO M164 (ASTM A325) with Class A contact surfaces and standard holes.



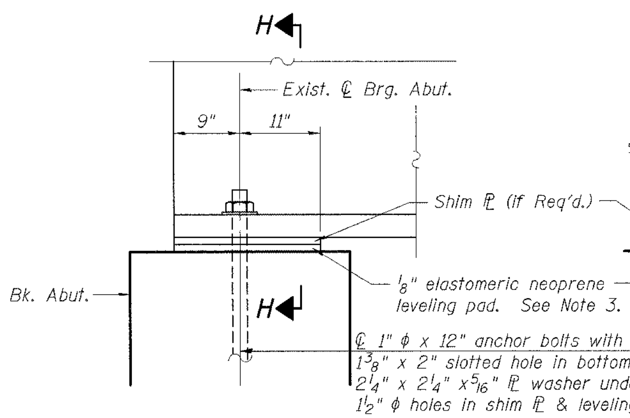
PLAN AT PIER



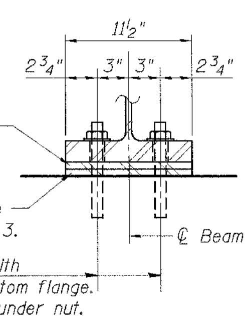
ELEVATION AT PIER

INTERIOR GIRDER MOMENT TABLE (PROPOSED BEAMS 8 AND 9)				
		0.4 Sp. 1	Pier	0.5 Sp. 2
Is	(in^4)	5,900	5,900	5,900
Ic (n)	(in^4)	14,919	---	14,919
Ic (3n)	(in^4)	11,031	---	11,031
Ss	(in^3)	359	359	359
Sc (n)	(in^3)	514	---	514
Sc (3n)	(in^3)	465	---	465
Z	(in^3)	---	415	---
DL	(k/ft.)	0.699	1.099	0.699
MDL	('k)	132.5	557.5	242.2
sDL	(k/ft.)	0.400	---	0.400
MsDL	('k)	89.1	---	171.3
MLL	('k)	359.5	251.8	483.9
M (Imp)	('k)	98.2	64.3	115.8
$\frac{5}{3}$[MLL+M(Imp)]	('k)	763	528	1,000
Ma	('k)	1,280	1,411	1,837
Mu	('k)	2,598	1,701	2,598
fsDL non-comp	(k.s.i.)	4.43	18.64	8.10
fsDL (comp)	(k.s.i.)	2.30	---	4.42
fs$\frac{5}{3}$(LL+Imp)	(k.s.i.)	17.81	17.64	23.34
fs (Overload)	(k.s.i.)	24.54	36.28	35.85
fs (Total)	(k.s.i.)	---	---	---
VR	(k)	50.0	---	51.0

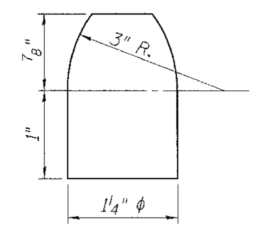
INTERIOR GIRDER REACTION TABLE (PROPOSED BEAMS 8 AND 9)			
		Abut.	Pier
RDL	(k)	22.32	87.79
RLL	(k)	35.92	42.46
Imp.	(k)	9.81	10.88
R (Total)	(k)	68.05	141.13



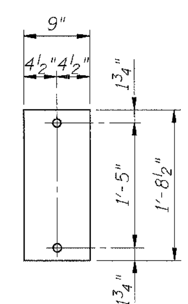
SECTION AT ABUTMENTS



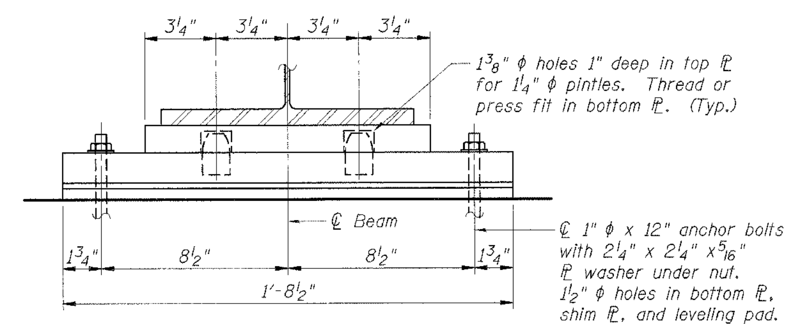
SECTION H-H



PINTLE



PLAN



SECTION J-J

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

$Ic_{(n)}$ and $Sc_{(n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$Ic_{(3n)}$ and $Sc_{(3n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

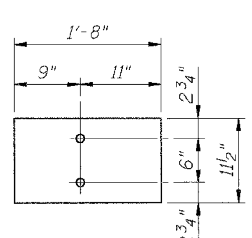
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

Ma (Applied Moment)=1.3[MDL + MsDL + $\frac{5}{3}$(MLL + M(Imp))].

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

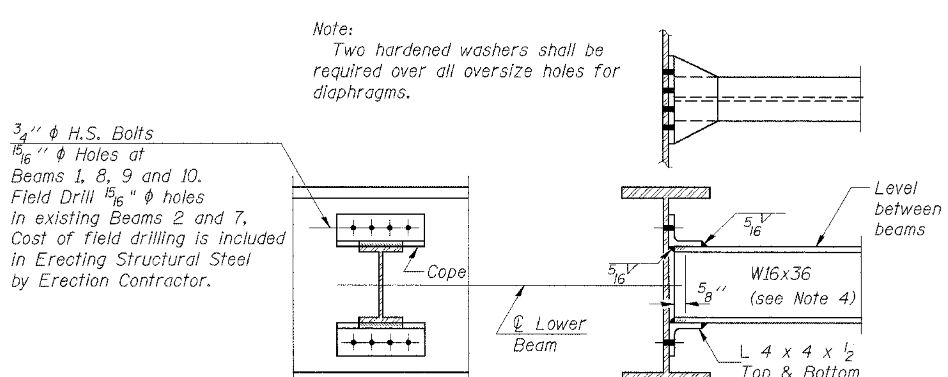
fs (Overload) is the sum of the stresses due to MDL + MsDL + $\frac{5}{3}$(MLL + M(Imp)).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[MDL + MsDL + $\frac{5}{3}$(MLL + M(Imp))].



PLAN

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



DIAPHRAGM D

(40 Required)

Notes:

1. Work this sheet with Sht. SA-11.
2. N.T.R. denotes steel is subject to Supplemental Requirements for Notch Toughness (Zone 2).
3. 1/8" elastomeric neoprene leveling pad according to Article 1052.02 of the Standard Specifications. Cost included with Furnishing Structural Steel.
4. All steel shown on this sheet shall be AASHTO M270 Grade 50 except diaphragms and shim plates may be AASHTO M 270 Grade 36.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FAI ROUTE 55 (I-80 TO WEBER ROAD)
BEAM AND BEARING FABRICATION
SB I-55 OVER CSX RAILROAD, S.N. 099-0312
STA. 167+72.58, SECTION 2005-063 I
WILL COUNTY

BEARING DETAILS, MOMENT & REACTION TABLES SPLICE & DIAPHRAGM DETAILS

SCALE: DRAWN BY MDB
DATE 06/08/06 CHECKED BY MJK

TENG
TENG & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS
CHICAGO, ILLINOIS