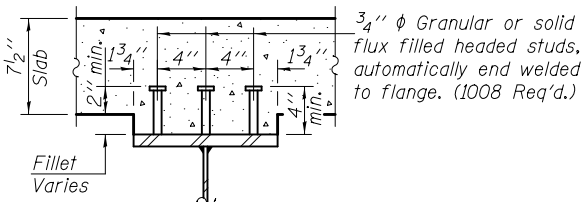
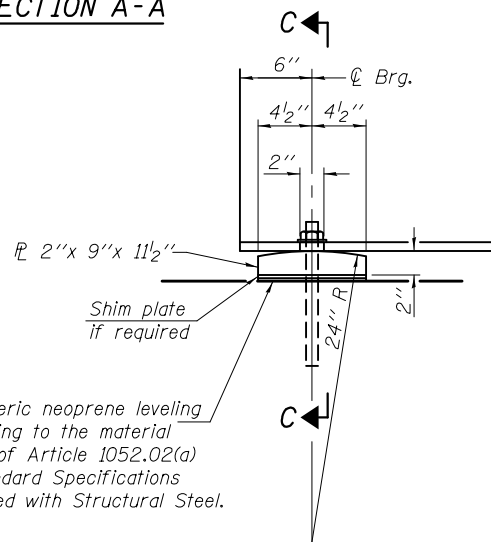


**PLAN**

(All beams are W33x118 AASHTO M270 Grade 50W and NTR).



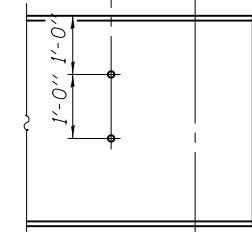
**SECTION A-A**



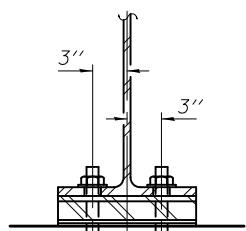
**ELEVATION AT ABUTMENT**

**FIXED BEARING**

1/2" φ holes in beam for m1(E) bars.



**TYP. END OF BEAM ELEVATION**

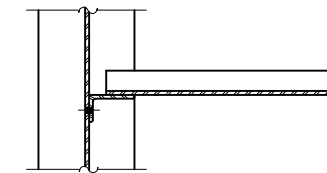
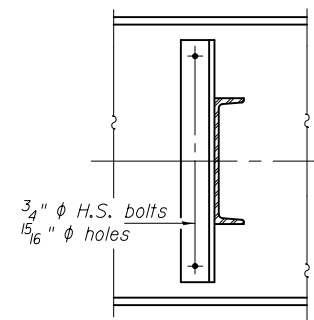


**SECTION C-C**

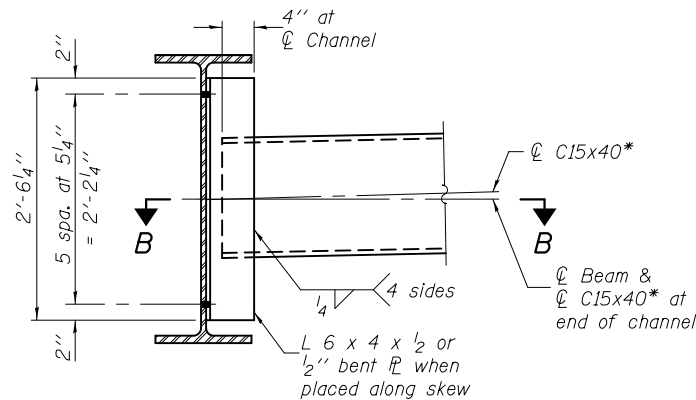
**\*TOP OF BEAM ELEVATIONS**

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
∅ Brg. W. Abut.	398.21	398.43	398.67	398.92	399.19	399.46
∅ Brg. E. Abut.	398.29	398.43	398.56	398.71	398.87	399.03

\*For fabrication only.



**SECTION B-B**



**DIAPHRAGM D**  
(20 Required)

Note: Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.  
Anchor bolts may be cast in place or installed in holes drilled after members are in place.  
Two hardened washers required for each set of oversized holes in diaphragms.  
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts.

INTERIOR BEAM MOMENT TABLE		0.5 Sp. 1
Is	(in <sup>4</sup> )	5900
Ic (n)	(in <sup>4</sup> )	15945
Ic (3n)	(in <sup>4</sup> )	11763
Ss	(in <sup>3</sup> )	359
Sc (n)	(in <sup>3</sup> )	531
Sc (3n)	(in <sup>3</sup> )	481
∅	(k/ft.)	0.765
M∅	(k)	393.1
s∅	(k/ft.)	0.479
Ms∅	(k)	246.1
M∅	(k)	554.2
M (Imp)	(k)	138.0
Mu	(k)	2981.5
fs∅ non-comp	(k.s.i.)	13.1
fs∅ (comp)	(k.s.i.)	6.1
fs <sub>3</sub> (∅ + Imp)	(k.s.i.)	26.1
fs (Overload)	(k.s.i.)	45.4
fs (Total)	(k.s.i.)	46.5
VR	(k)	46.5

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.  
Ma (Applied Moment) = 1.3[M∅ + Ms∅ + 5<sub>3</sub>(M∅ + 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 M∅ + Ms∅ + 5<sub>3</sub>(M∅ + M(Imp)).  
fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[M∅ + Ms∅ + 5<sub>3</sub>(M∅ + M(Imp))].  
M∅ and R∅ include effects of Centrifugal Force and Superelevation.

INTERIOR BEAM REACTION TABLE		Abutment
R∅	(k)	39.9
R∅	(k)	39.0
Imp.	(k)	9.7
R (Total)	(k)	88.6

DESIGNED - Curt M. Evoy  
CHECKED - Phillip Coppernoll  
DRAWN - h.t. duong  
CHECKED - FT/GRA

EXAMINED - *Joanne F. [Signature]*  
PASSED - *Carl [Signature]*  
ACTING ENGINEER OF BRIDGE DESIGN  
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - JANUARY 24, 2014  
REVISED  
REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL  
STRUCTURE NO. 100-0080

SHEET NO. 13 OF 18 SHEETS

F.A.U. SECTION COUNTY TOTAL SHEETS SHEET NO.  
RTE. 39B-1 WILLIAMSON 224 88  
9588 CONTRACT NO. 78277  
ILLINOIS FED. AID PROJECT