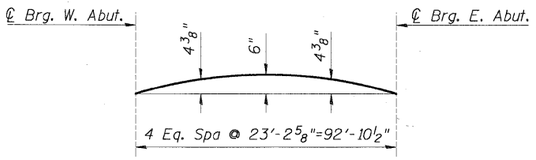
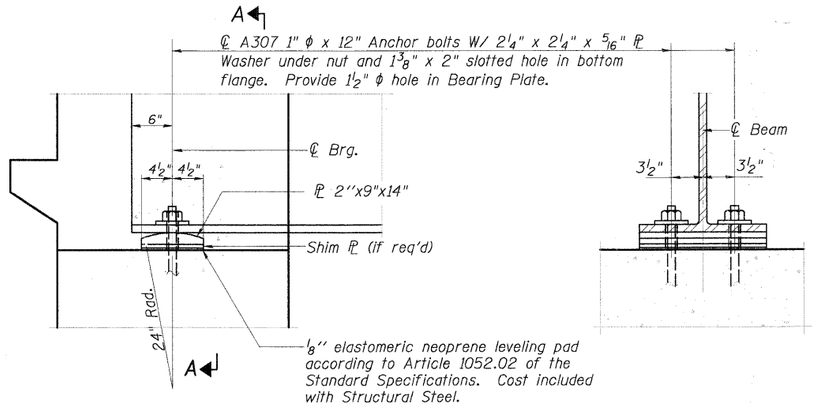



CAMBER DIAGRAM




ELEVATION

SECTION A-A

BEARING DETAILS

## MOMENT AND REACTION TABLES

| INTERIOR GIRDER MOMENT TABLE | | | 0.5 Sp. |
|---|---|---|---|
| Is | | (in⁴) | 9,727 |
| Ic (n) | | (in⁴) | 29,532 |
| Ic (3n) | | (in⁴) | 20,805 |
| Ss | | (in³) | 711 |
| Sc (n) | | (in³) | 985 |
| Sc (3n) | | (in³) | 910 |
| Z | | (in³) | |
| wℓ | | (k/ft.) | 0.85 |
| Mℓ | | ('k) | 917 |
| swℓ | | (k/ft.) | 0.35 |
| Mswℓ | | ('k) | 378 |
| Mℓ | | ('k) | 844 |
| M (Imp) | | ('k) | 193 |
| S3[Mℓ+M(Imp)] | | ('k) | 1,730 |
| Ma | | ('k) | 3,931 |
| * Mu | | ('k) | 4,509 |
| fsℓ non-comp | | (k.s.i.) | 15.5 |
| fsℓ (comp) | | (k.s.i.) | 5.0 |
| fs S3 (ℓ+Imp) | | (k.s.i.) | 12.6 |
| fs (Overload) | | (k.s.i.) | 41.5 |
| * fs (Total) | | (k.s.i.) | 54.0 |
| VR | | (k) | 54.0 |

* Non-Compact Section

| INTERIOR GIRDER REACTION TABLE | | W. Abut. | E. Abut. |
|---|---|---|---|
| Rℓ | (k) | 55.7 | 55.7 |
| Rℓ | (k) | 43.9 | 43.9 |
| Imp. | (k) | 10.1 | 10.1 |
| R (Total) | (k) | 109.7 | 109.7 |

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs (Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs (Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs (Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).

wℓ: Un-factored non-composite dead load (kips/ft.).

Mℓ: Un-factored moment due to non-composite dead load (kip-ft.).

swℓ: Un-factored long-term composite (superimposed) dead load (kips/ft.)

Mswℓ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

Mℓ: Un-factored live load moment (kip-ft.).

MImp: Un-factored moment due to impact (kip-ft.).

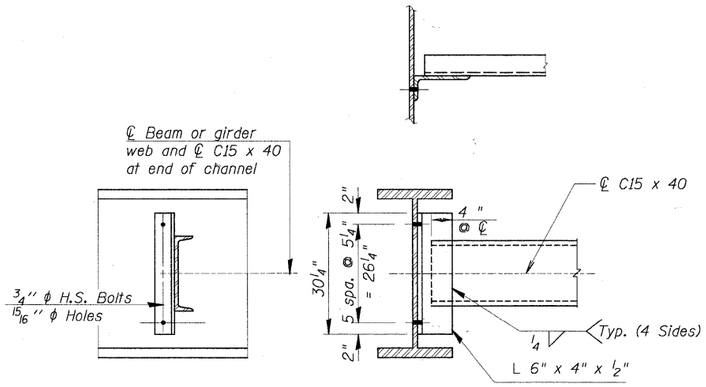
Ma: Factored design moment (kip-ft.).
1.3 [ Mℓ + Mswℓ + 3/3 (Mℓ + MImp )]

Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1. or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

fs (Overload): Sum of stresses as computed from the moments below (ksi).
Mℓ + Mswℓ + 5/3 (Mℓ + MImp )

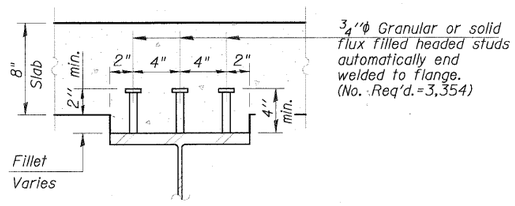
fs (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.3 [Mℓ + Mswℓ + 5/3 (Mℓ + MImp )]

VR: Maximum ℓ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

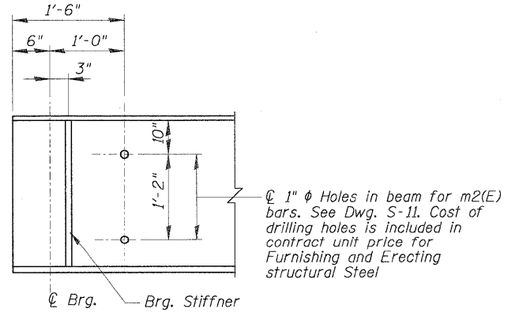



INTERIOR DIAPHRAGM

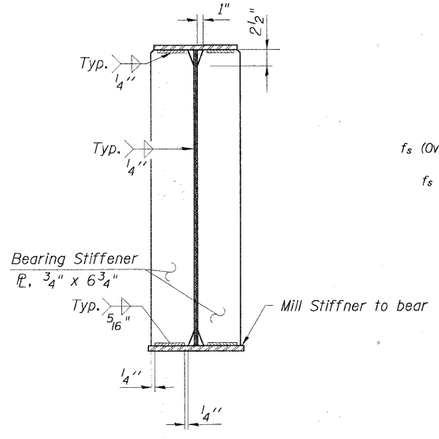
Note:
Two hardened washers shall be required over all oversize holes for diaphragms.




SECTION A-A




TYPICAL END OF BEAM ELEVATION




BEARING STIFFNER DETAIL

F.A.S. 0130 -BIG TIMBER ROAD
OVER TYLER AND PINGREE CREEK
SECTION 01-00266-00-BR
KANE COUNTY, ILLINOIS
STA. 135+80.00
STRUCTURE NO. 045-3323

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

| FILE NAME = | USER NAME = BLUKE | DESIGNED - MM | REVISED - |
|---|---|---|---|
| N:\kanecounty\104198\STRUCT_2\104198-S14.SHT | | DRAWN - PDR | REVISED - |
| | PLOT SCALE = 1' | CHECKED - MM | REVISED - |
| | PLOT DATE = 2/7/2011 | DATE - | REVISED - |

**STATE OF ILLINOIS**
**DEPARTMENT OF TRANSPORTATION**

**STEEL DETAILS**

SHEET NO. S-14 OF S-21

| F.A.S RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 0130 | 01-00266-00-BR | KANE | 70 | 51 |
| | | CONTRACT NO. 63196 | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT BRM-8003(043) | | |