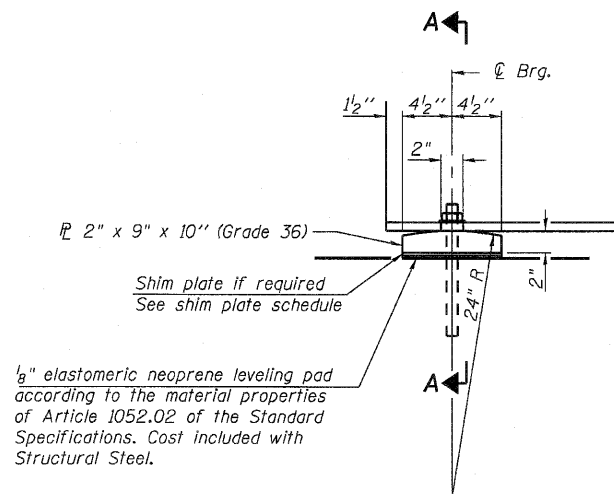
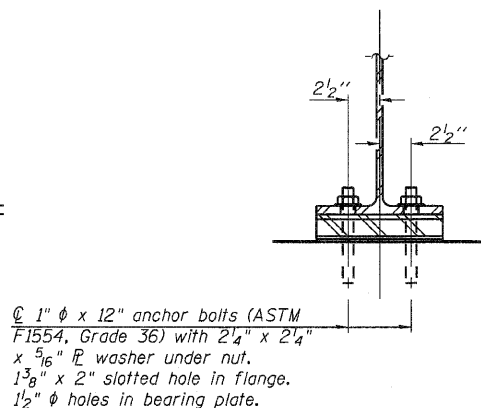




ELEVATION



SECTION A-A

### FIXED BEARING AT ABUTMENTS

#### NOTES

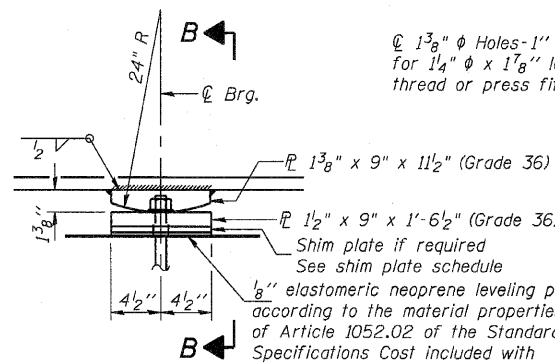
Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on the plans. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified, ASTM A307 Grade C anchor bolts 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.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

| SHIM PLATE SCHEDULE |          |                       |
|---------------------|----------|-----------------------|
| Beams               | Location | Shim Plate            |
| 4 & 11              | W. Abut. | 1/2" x 9" x 10"       |
| 4 & 11              | Pier 1   | 1/2" x 9" x 1'-6 1/2" |
| 4 & 11              | Pier 2   | 1/2" x 9" x 1'-6 1/2" |
| 4 & 11              | E. Abut. | 1/2" x 9" x 10"       |

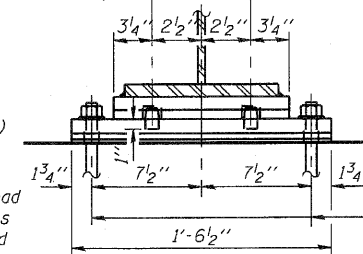
- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total and Overload) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total and Overload) due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : 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 and Overload) due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).
- $Q$ : Unfactored non-composite dead load (kips/ft.).
- $M_Q$ : Unfactored moment due to non-composite dead load (kip-ft.).
- $s_Q$ : Unfactored long-term composite (superimposed) dead load (kips/ft.).
- $M_{sQ}$ : Unfactored moment due to long-term composite (superimposed) dead load (kip-ft.).
- $M_L$ : Unfactored live load moment (kip-ft.).
- $M_{imp}$ : Unfactored moment due to impact (kip-ft.).
- $M_o$ : Factored design moment (kip-ft.).  
 $1.3 [M_Q + M_{sQ} + \frac{5}{3} (M_L + M_{imp})]$
- $M_u$ : 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.).
- $f_s$  (Overload): Sum of stresses as computed from the moments below (ksi).  
 $M_Q + M_{sQ} + \frac{5}{3} (M_L + M_{imp})$
- $f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.3 [M_Q + M_{sQ} + \frac{5}{3} (M_L + M_{imp})]$
- VR: Maximum  $M_L$  + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).



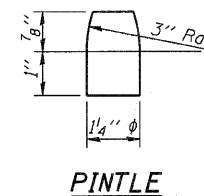
ELEVATION

### FIXED BEARING AT PIERS 1 AND 2

1 3/8"  $\phi$  Holes-1" deep in top  $\bar{P}$  for 1 1/4"  $\phi$  x 17/8" long pintles thread or press fit in bottom plate.



SECTION B-B



PINTLE

| INTERIOR BEAM MOMENT TABLE |                          |       |            |
|----------------------------|--------------------------|-------|------------|
|                            | 0.4 Span 1 or 0.6 Span 3 | Piers | 0.5 Span 2 |
| $I_s$                      | 3620                     | 3620  | 4090       |
| $I_c(n)$                   | 10,313                   | —     | 11,351     |
| $I_c(3n)$                  | 7636                     | —     | 8,333      |
| $S_s$                      | 267                      | 267   | 299        |
| $S_c(n)$                   | 403                      | —     | 448        |
| $S_c(3n)$                  | 364                      | —     | 404        |
| $Q$                        | 0.76                     | 1.22  | 0.78       |
| $M_Q$                      | 68                       | 392   | 213        |
| $s_Q$                      | 0.46                     | —     | 0.46       |
| $M_{sQ}$                   | 56                       | —     | 162        |
| $M_L$                      | 240                      | 171   | 402        |
| $M_I$                      | 72                       | 48    | 104        |
| $s_3 [M_L + i]$            | 520                      | 365   | 843        |
| $M_o$                      | 837                      | 984   | 1583       |
| $M_u$                      | 1609                     | —     | 1687       |
| $f_s$ $\bar{Q}$ non-comp   | 3.1                      | 17.6  | 8.6        |
| $f_s$ $\bar{Q}$ comp       | 1.8                      | —     | 4.8        |
| $f_s$ $s_3 [M_L + M_I]$    | 15.6                     | 16.4  | 22.6       |
| $f_s$ (Overload)           | 20.5                     | 34.0  | 36.0       |
| $f_s$ (Total)              | —                        | 44.2  | —          |
| VR                         | 31                       | —     | 36         |

| INTERIOR BEAM REACTION TABLE |       |      |
|------------------------------|-------|------|
|                              | Abut. | Pier |
| $R_Q$                        | 18    | 80   |
| $R_L$                        | 30    | 38   |
| $Imp.$                       | 8     | 10   |
| $R_{Total}$                  | 56    | 128  |

#### BILL OF MATERIAL TWO STRUCTURES

| Item                      | Unit | Total |
|---------------------------|------|-------|
| Anchor Bolts, 1" $\phi$   | Each | 56    |
| Anchor Bolts, 3/4" $\phi$ | Each | 56    |

#### BEARING DETAILS STRUCTURE NO. 081-0190 (WB) STRUCTURE NO. 081-0191 (EB)

|  |                   |                 |                     |                       |                  |                  |
|--|-------------------|-----------------|---------------------|-----------------------|------------------|------------------|
|  | PROJECT NO. 09033 | F.A.I. RTE. 280 | SECTION 81-1 (HB-1) | COUNTY ROCK ISLAND    | TOTAL SHEETS 503 | SHEET NO. 267    |
|  | DATE 5/18/10      | SHEET NO. 26    | 41 SHEETS           | FED. ROAD DIST. NO. 7 | ILLINOIS         | FED. AID PROJECT |