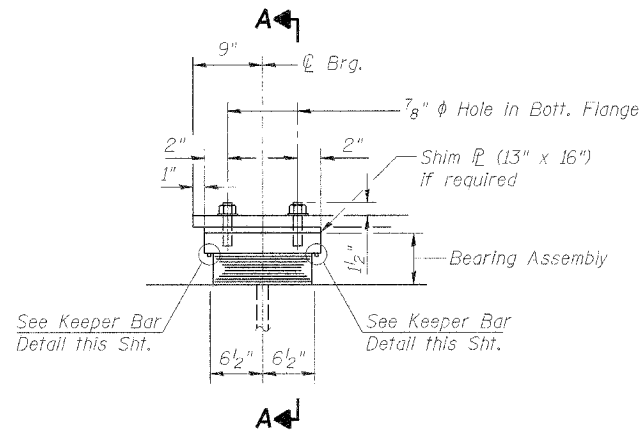


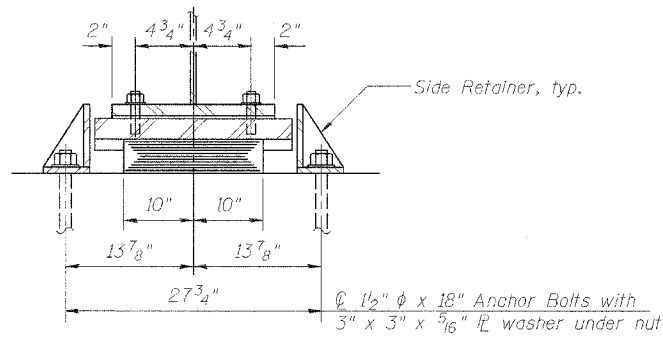
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |           |                  |        |       |           |
|-----------------------|-----------|------------------|--------|-------|-----------|
| ROUTE NO.             | SECTION   | COUNTY           | SHEETS | SHEET | SHEET NO. |
| F.A.P. 315            | 55-2      | MCDONOUGH        | 1025   | 523   | 19        |
| FED. ROAD DIST. NO. 4 | BLINDSIDE | FED. AID PROJECT |        |       |           |

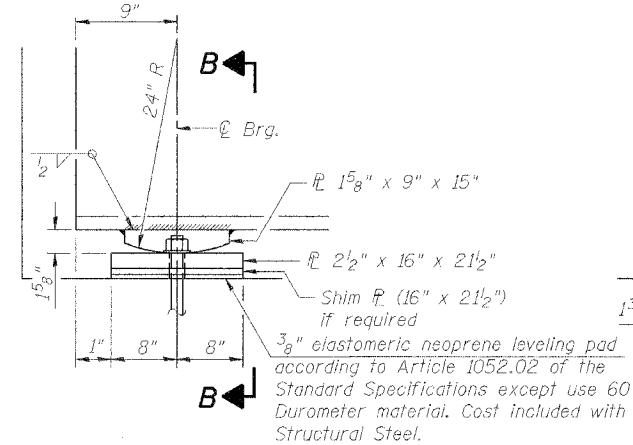
Contract # 68205



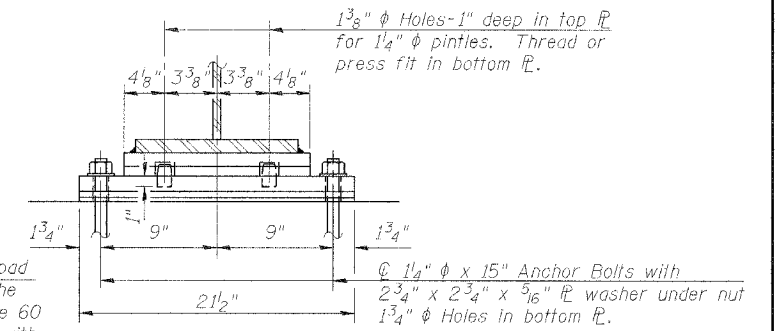
ELEVATION AT PIER



SECTION A-A

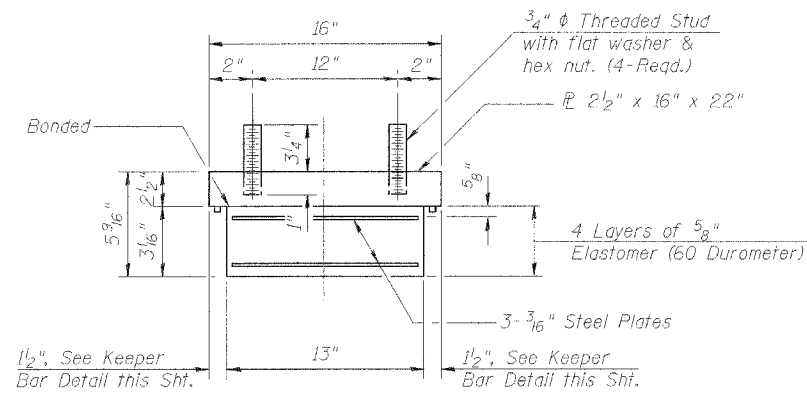


ELEVATION AT ABUTMENTS



SECTION B-B

**TYPE I ELASTOMERIC EXP. BRG.**  
(Girder Bearing Stiffeners are not shown.)



BEARING ASSEMBLY

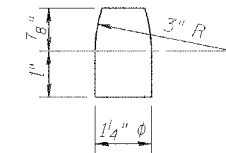
Notes:

- Shim plates shall not be placed under Bearing Assembly.
- Field glue bearing pad to the concrete seat per B.N.S.F. requirements. See Special Provisions.
- See Special Provisions: Note 60 Durometer Elastomer.

Notes:

- Anchor Bolts at fixed bearings may be built into the masonry.
- See Sht. 8 of 19 for Anchor Bolt installation.

**FIXED BEARING**  
(Girder Bearing Stiffeners are not shown.)



PINTLE

Notes:

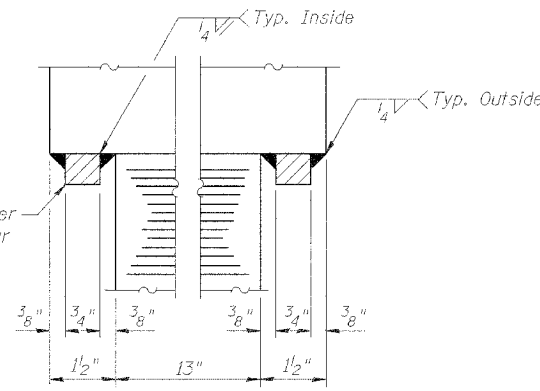
- See General Note 5, Sht. 2 of 19, typical all fixed and expansion bearing steel plates and pintles.
- See General Note 9, Sht. 2 of 19 for 1/8" shim plates to be provided with all fixed and expansion bearings. See details this sheet for plan size and placement of shim plates.

|                       | Cooper's<br>E80 on<br>5 Girders | Cooper's<br>E65 on<br>4 Girders |
|-----------------------|---------------------------------|---------------------------------|
| Is (in <sup>4</sup> ) | 117,281                         | 117,281                         |
| Ss (in <sup>3</sup> ) | 2,636                           | 2,636                           |
| φ (K/ft.)             | 1.30                            | 1.30                            |
| Mφ (K)                | 1,152                           | 1,152                           |
| M <sub>φ</sub> (K)    | 1,890                           | 3,072                           |
| M (Imp) (K)           | 785                             | 1,143                           |
| fsφ (k.s.i.)          | 5.2                             | 5.2                             |
| fs (4+I) (k.s.i.)     | 12.2                            | 19.2                            |
| fs (Total) (k.s.i.)   | 17.4                            | 24.4                            |
| VR (K)                | 146.2                           | 230.4                           |

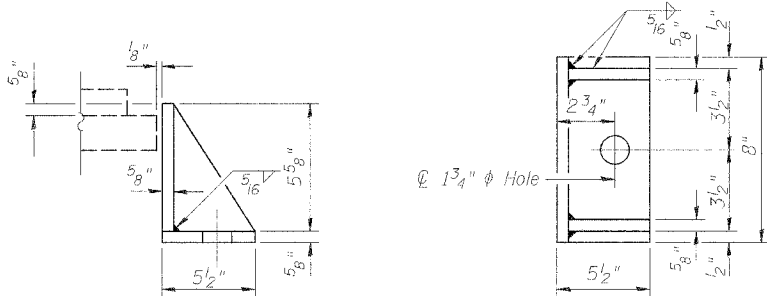
|                    | Cooper's<br>E80 on<br>5 Girders | Cooper's<br>E65 on<br>4 Girders |
|--------------------|---------------------------------|---------------------------------|
| Rφ (K)             | 52.7                            | 52.7                            |
| R <sub>φ</sub> (K) | 103.3                           | 167.9                           |
| Imp. (K)           | 42.9                            | 62.5                            |
| R (Total) (K)      | 200.9                           | 285.1                           |

Notes:

- Is and Ss are the gross moment of inertia and section modulus of the steel section used in computing fs.
- VR is the maximum Live Load + Impact shear range in span.
- Impact includes vertical effects and rocking effects.
- Loads and stresses are based on service load conditions, ignoring composite action of ballast plate.
- Effects of Live Load and Impact eccentricity are included in distribution of load to girders.



KEEPER BAR DETAIL



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

|          |     |
|----------|-----|
| DESIGNED | PJL |
| CHECKED  | WDL |
| DRAWN    | MGM |
| CHECKED  | PJL |

**BILL OF MATERIAL**

| Item  | Unit | Total |
|---|------|-------|
| Elastomeric Bearing Assembly Type I (Special) | Each | 10    |

BEARINGS, REACTION & MOMENT TABLES  
BURLINGTON NORTHERN SANTA FE RAILROAD OVER IL. ROUTE 336  
F.A.P. ROUTE 315 SECT. 55-2  
MCDONOUGH COUNTY STATION 55+41.87  
STRUCTURE NO. 055-9901  
B.N.S.F. LINE SEGMENT 0011  
B.N.S.F. BRIDGE NO. 206.04

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