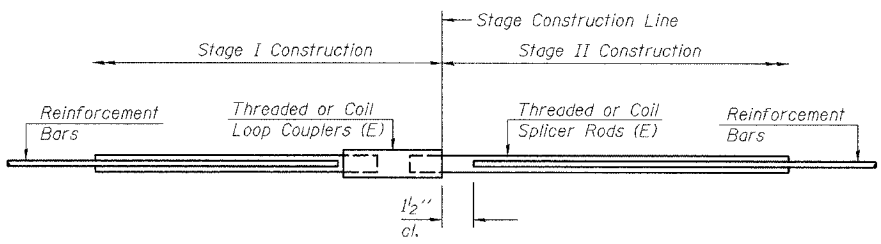


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

| ROUTE NO.           | SECTION  | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------|----------|---------|--------------|-----------|
| FAI 90/94           | *        | COOK    | 419          | 186       |
| FED. ROAD DIST. NO. | ILLINOIS | PROJECT |              |           |

Sheet No 8  
of 8 Sheets

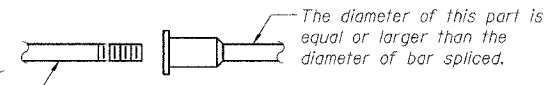
\* 2005-008F  
CONTRACT #62580



**SPLICER DETAIL**

| Bar Size | No. Assemblies Required | Location                                |
|----------|-------------------------|---|
| #5       | 24                      | At Stage Construction Line in N.B. Deck |
|          |                         |   |
|          |                         |   |
|          |                         |   |

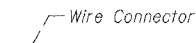
The diameter of this part is the same as the diameter of the bar spliced.



**ROLLED THREAD DOWEL BAR**



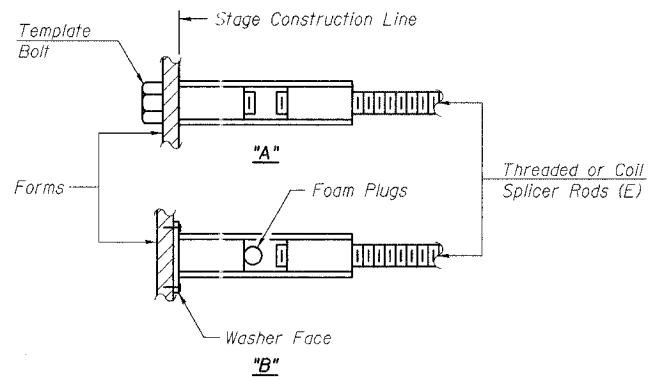
**\*\* ONE PIECE**



**WELDED SECTIONS**

**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

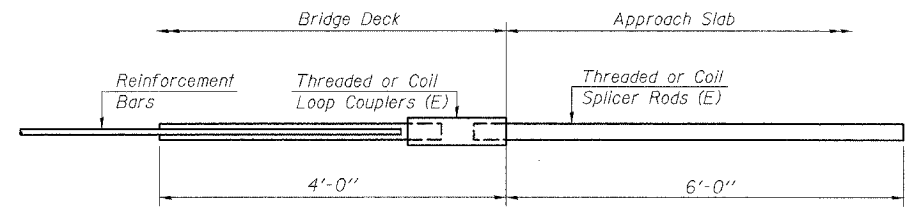
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
- ② Minimum \*Pull-Out Strength (Tension in kips) =  $1.25 \times f_{s_{allow}} \times A_t$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s_{allow}}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

| Bar Size to be Spliced | Splicer Rod or Dowel Bar Length | Strength Requirements        |                                       |
|------------------------|---------------------------------|------------------------------|---------------------------------------|
|                        |                                 | Min. Capacity kips - tension | Min. Pull-Out Strength kips - tension |
| #5                     | 2'-0"                           | 23.0                         | 9.2                                   |
| #6                     | 2'-7"                           | 33.1                         | 13.3                                  |
| #7                     | 3'-5"                           | 45.1                         | 18.0                                  |
| #8                     | 4'-6"                           | 58.9                         | 23.6                                  |

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



**INTEGRAL ABUTMENT  
BAR SPLICER ASSEMBLY DETAIL  
FOR #5 BAR**

|   |
|---|
| Min. Capacity = 23.0 kips - tension         |
| Min. Pull-out Strength = 9.2 kips - tension |
| No. Required =                              |

BSD-1 4-30-99

PIER NO. 1

| REVISIONS |      |          | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION<br>DIVISION OF HIGHWAYS |                     | DRAWN BY DATE<br>RLK 5/03   |
|-----------|------|----------|---|---------------------|-----------------------------|
| No.       | DATE | INITIALS | FAI RTE 90/94   | DAN RYAN EXPRESSWAY | CHECKED BY DATE<br>SDS 5/03 |
| 1         |      |          | SN 016-1110 (NORTHBOUND)  |                     | BOOK NUMBER                 |
| 2         |      |          | SEC 2005-008F   | COOK COUNTY         | PROJECT No.<br>4222-3       |
| 3         |      |          |   |                     | SHEET No.                   |
| 4         |      |          |   |                     |                             |
| 5         |      |          |   |                     |                             |
| 6         |      |          |   |                     |                             |
| 7         |      |          |   |                     |                             |
| 8         |      |          |   |                     |                             |
| 9         |      |          |   |                     |                             |
| 10        |      |          |   |                     |                             |

**CHASTAIN & ASSOCIATES**  
CONSULTING ENGINEERS  
6000 W. HEYEN MAWR AVENUE  
SUITE 204  
CHICAGO, ILLINOIS 60681  
312-714-0900  
FAX 312-714-0905