ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	4 R	2 H

FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-

* 2005-008F
Contract #62580

ROLLED THREAD DOWEL BAR

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

The diameter of this part is equal or larger than the diameter of bar spliced.

** ONE PIECE

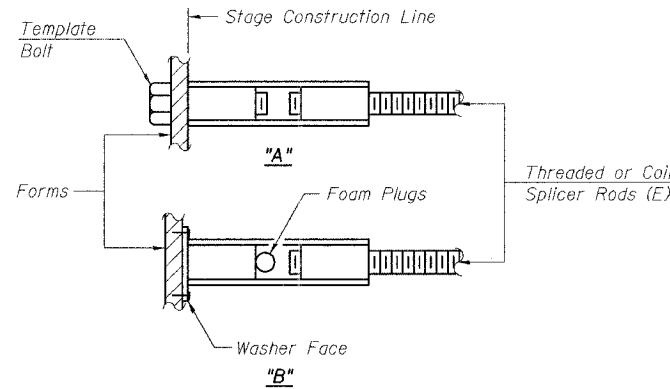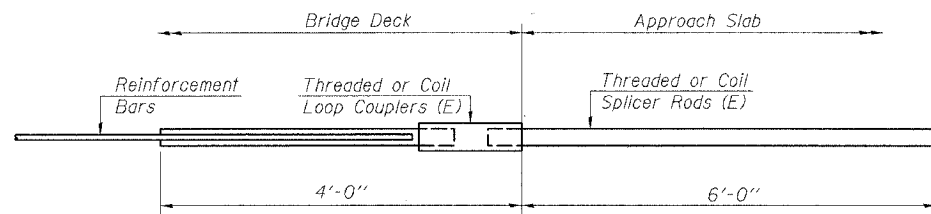Wire Connector

WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

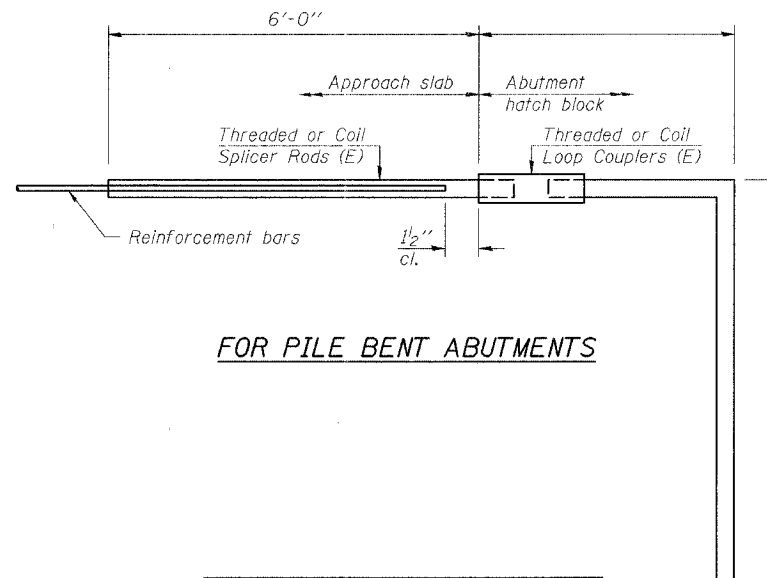** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.

INSTALLATION AND SETTING METHODS

Template Bolt

Stage Construction Line

Forms

"A"

Foam Plugs

Threaded or Coil Splicer Rods (E)

Washer Face

"B"

"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.
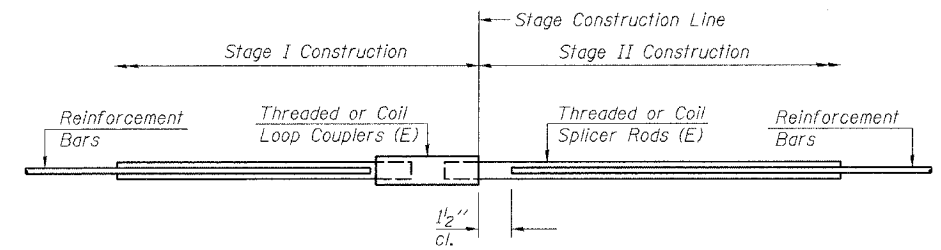(E) : Indicates epoxy coating.

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) $= 1.25 \times fs_{allow} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
fs_{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 SPLICER ASSEMBLIES

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#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
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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."

FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bridge Deck

Approach Slab

Reinforcement Bars

Threaded or Coil Loop Couplers (E)

Threaded or Coil Splicer Rods (E)

4'-0"

6'-0"

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 9.2 kips - tension	
No. Required = N/A	

FOR PILE BENT ABUTMENTS

6'-0"

Approach slab

Abutment hatch block

Threaded or Coil Splicer Rods (E)

Threaded or Coil Loop Couplers (E)

Reinforcement bars

$1\frac{1}{2}$" cl.

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 9.2 kips - tension	
No. Required = N/A	

STANDARD

Stage Construction Line

Stage I Construction

Stage II Construction

Reinforcement Bars

Threaded or Coil Loop Couplers (E)

Threaded or Coil Splicer Rods (E)

Reinforcement Bars

$1\frac{1}{2}$" cl.

Bar Size	No. Assemblies Required	Location
#5	48	Deck

ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY) OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

REVISIONS	
NAME	DATE

SCALE: VERT. HORIZ.
DATE: 3/22/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: -

GREENE & BRADFORD, INC.
OF SPRINGFIELD

COMPUTER FILE NO.
04286-W01-NB-BSD

PROJECT 04286-W01
8/3/05-MML

BSD-1

10-22-04