STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 15
F.A.P. 310	(101BY) BR	WARREN	97	48a	16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #88798

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

The diameter of this part is
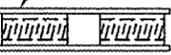equal or larger than the
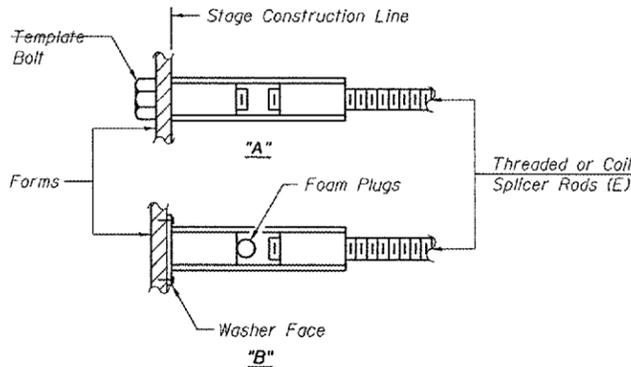diameter of bar spliced.
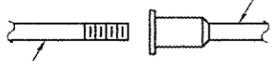
ROLLED THREAD DOWEL BAR

** ONE PIECE
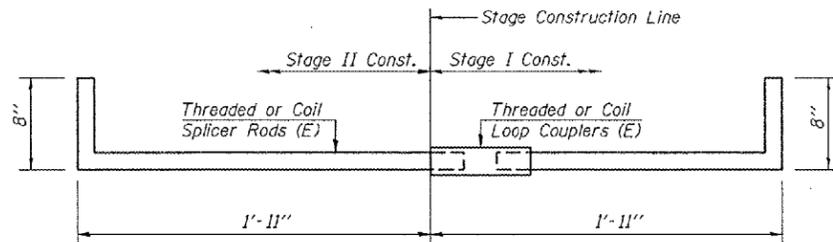
Wire Connector

WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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

Stage Construction Line

Stage II Const. | Stage I Const.

8″

Threaded or Coil
Splicer Rods (E)

Threaded or Coil
Loop Couplers (E)

8″

1′-11″   1′-11″

FOR BOTTOM SPLICER AT DIAPHRAGMS

Bar Splicer for #6 bar	
Min. Capacity = 33.1 kips - tension	
Min. Pull-out Strength = 17.4 kips - tension	
No. Required = 2	

Bridge Deck | Approach Slab

Reinforcement
Bars

Threaded or Coil
Loop Couplers (E)

Threaded or Coil
Splicer Rods (E)

4′-0″   6′-0″

FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 64	

Template Bolt

Stage Construction Line

"A"

Forms

Foam Plugs

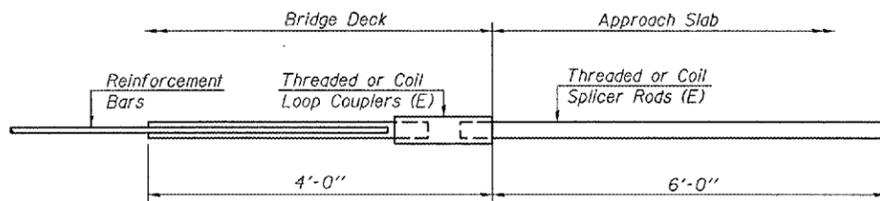Threaded or Coil
Splicer Rods (E)

Washer Face

"B"

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
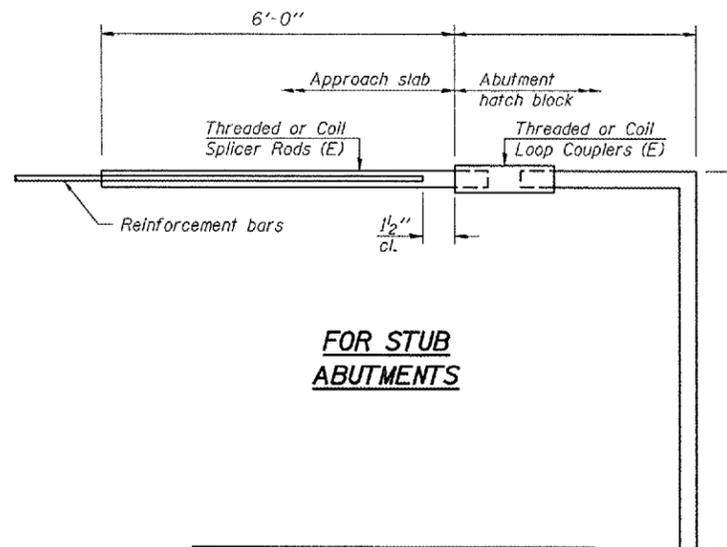cementing to steel forms.
(E) : Indicates epoxy coating.

6′-0″

Approach slab | Abutment
hatch block

Threaded or Coil
Splicer Rods (E)

Threaded or Coil
Loop Couplers (E)

Reinforcement bars

1½″ cl.

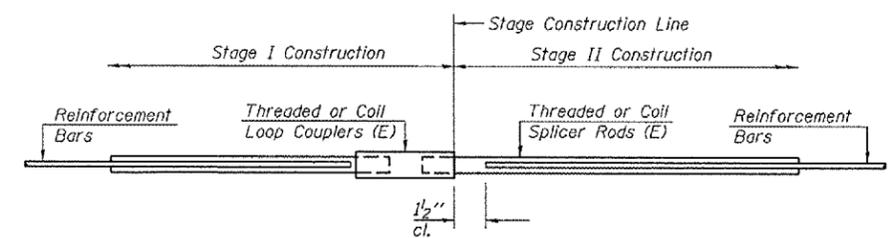### FOR STUB ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required =	

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) $= 0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
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	7.9
#5	2′-0″	23.0	12.3
#6	2′-7″	33.1	17.4
#7	3′-5″	45.1	23.8
#8	4′-6″	58.9	31.3
#9	5′-9″	75.0	39.6
#10	7′-3″	95.0	50.3
#11	9′-0″	117.4	61.8

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

1½″ cl.

STANDARD

Bar Size	No. Assemblies Required	Location
#5	207	Superstructure
#6	14	Diaphragms
#7	18	Abutments

BAR SPLICER ASSEMBLY DETAILS
F.A.P. ROUTE 310 - SEC. (101BY)BR
WARREN COUNTY
STATION 73+02
STRUCTURE NO. 094-0049

DESIGNED	JSB
CHECKED	CME
DRAWN	BMC P.W. SWEET
CHECKED	JSB/CME

September 6, 2007

EXAMINED *Thomas J. Domagalski*
ENGINEER OF BRIDGE DESIGN

PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES