

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 24
FA 773 IL 121	(109B) B-1	CUMBERLAND	96	81	25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-			

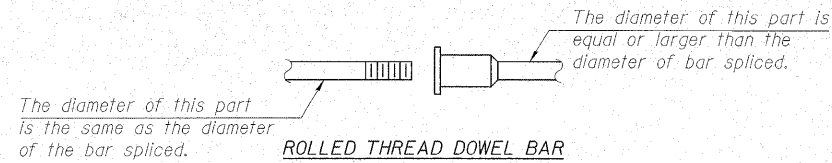
Contract # 74237

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:

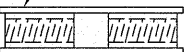
- ① Minimum Capacity = $1.25 \times f_y \times A_1$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_1$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

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'-2"	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	



**** ONE PIECE**

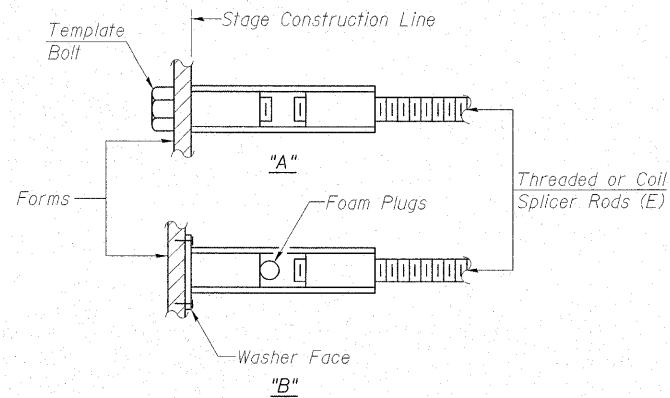
Wire Connector



WELDED SECTIONS

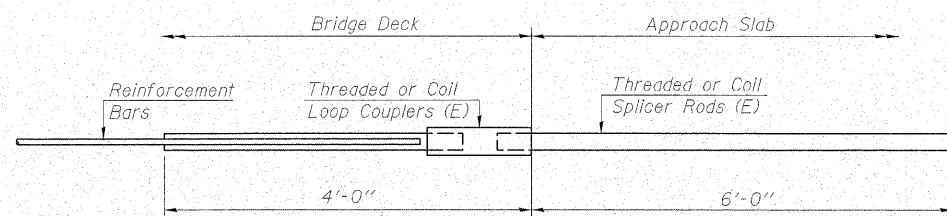
BAR SPLICER ASSEMBLY ALTERNATIVES

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



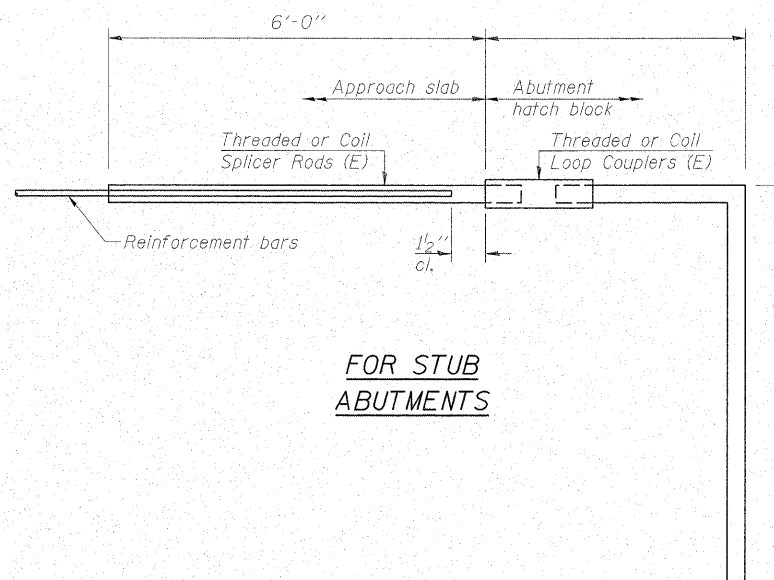
INSTALLATION AND SETTING METHODS

"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.



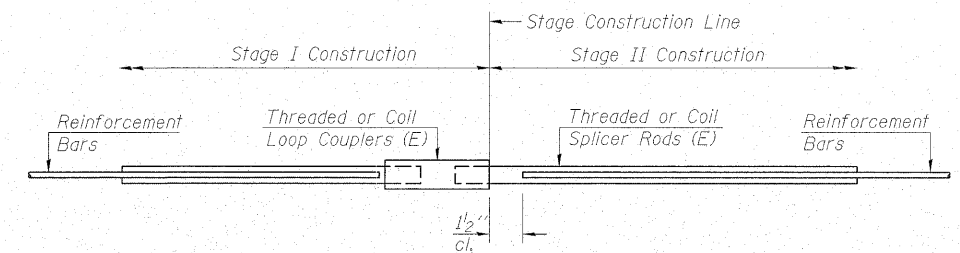
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	522	Deck
#6	16	Abut. Diaph.
#4	8	Pier Diaph.
#6	4	Pier Diaph.
#7	20	Abutments
#7	20	Piers
#5	66	Piers

BAR SPLICER ASSEMBLY DETAILS
IL ROUTE 121 OVER BIG MUDDY CREEK
F.A.P. RTE. 773 - SECTION (109B)B-1
CUMBERLAND COUNTY
STATION 574+84.00
STRUCTURE NO. 018-0063



DESIGNED - BAS
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA

BSD-1

11-1-06