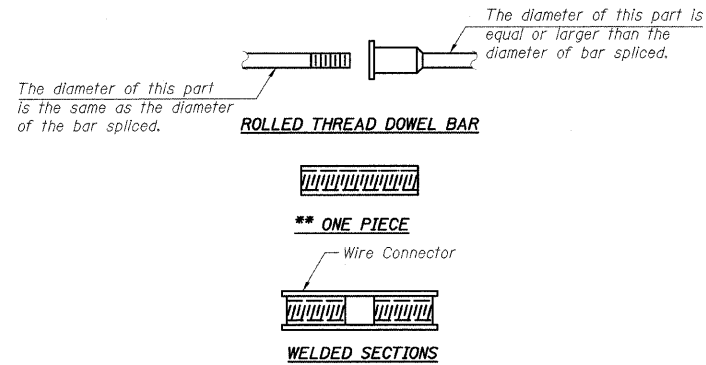
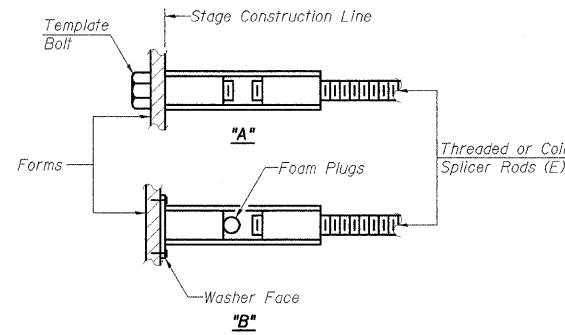


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BAR SPLICER ASSEMBLY ALTERNATIVES

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



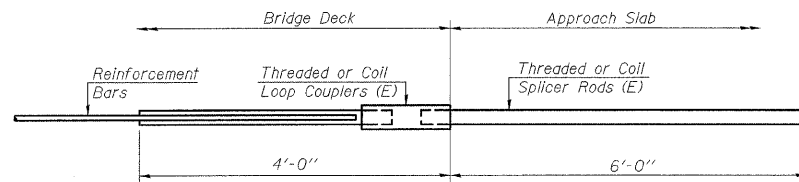
INSTALLATION AND SETTING METHODS

"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:

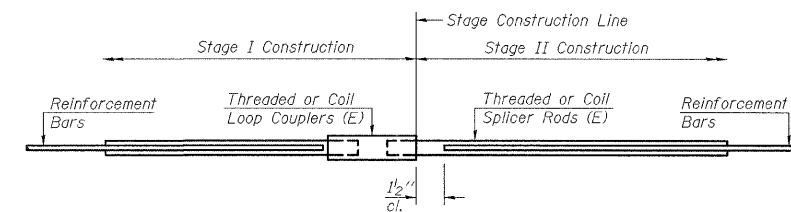
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_s$
 - ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_s$ (Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_s = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#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



FOR ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 80



STANDARD

Bar Size	No. Assemblies Required	Location
#7	7	West Abutment
#7	7	East Abutment
#7	7	Pier No. 1
#4	14	Pier No. 1
#7	7	Pier No. 2
#4	14	Pier No. 2
#5	139	Slab
#4	25	West Appr. Slab
#5	86	West Appr. Slab
#4	25	East Appr. Slab
#5	86	East Appr. Slab

DESIGNED SDH
CHECKED JML
DRAWN JWK/DJM
CHECKED MSW

DATE 10/07/09

FARNSWORTH GROUP, INC.

**BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 053-0185**

SHEET NO. B20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	41	(15BR-3)-1	LIVINGSTON	45	31
22 SHEETS	SN 053-0185		CONTRACT NO. 66833		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		