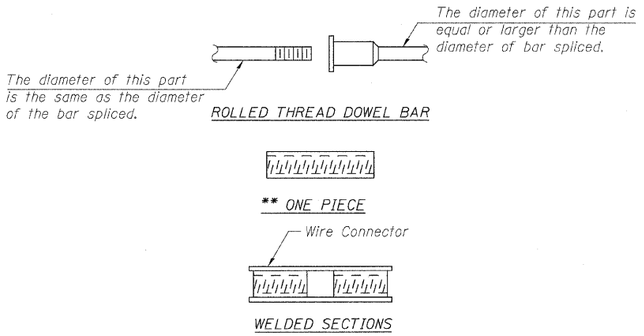
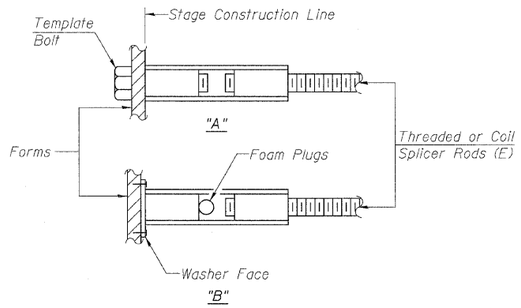
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563M, 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 414 MPa 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.

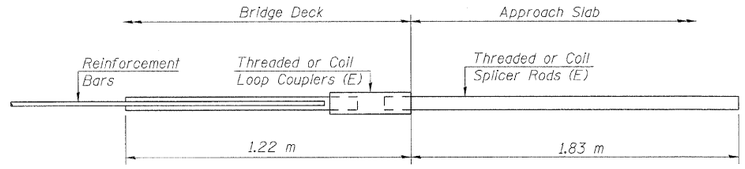
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kN) $= 1.25 \times 10^{-3} \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kN) $= 1.25 \times 10^{-3} \times fs_{allow} \times A_t$

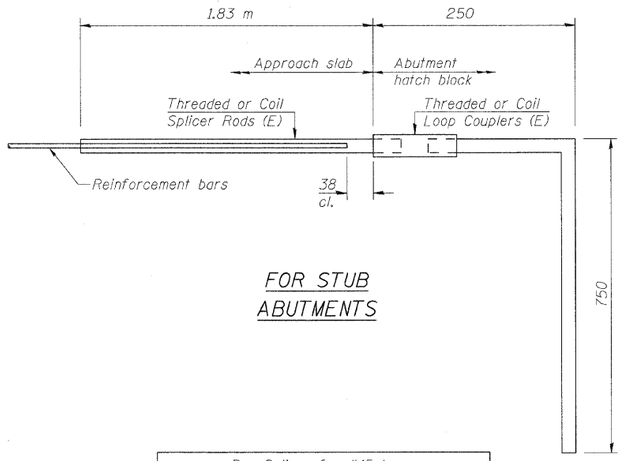
Where f_y = Yield strength of lapped reinforcement bars in MPa.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kN - tension	Min. Pull-Out Strength kN - tension
#10	508 mm	65.4	35.1
#15	610 mm	102.3	54.7
#20	790 mm	147.2	77.4
#22	1.04 m	200.6	105.9
#25	1.37 m	262.0	139.2
#30	1.75 m	333.6	176.1
#32	2.21 m	422.6	223.7
#35	2.74 m	522.2	274.9



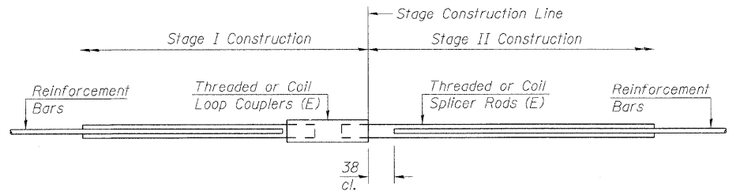
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #15 bar
Min. Capacity = 102.3 kN - tension
Min. Pull-out Strength = 54.7 kN - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #15 bar
Min. Capacity = 102.3 kN - tension
Min. Pull-out Strength = 54.7 kN - tension
No. Required = 78



STANDARD

Bar Size	No. Assemblies Required	Location
#15	638	Deck
#25	10	End of Deck
#20	2	End of Deck
#20	8	Abutment
#15	20	Abutment

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 016-2034

SHEET NO. S-26	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	57	1818.3B-R	COOK	58	50
S-26 SHEETS			CONTRACT NO. 60862		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DESIGNED	EKM
CHECKED	SCD
DRAWN	RD
CHECKED	EKM

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