

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	(50-1VB)-3	LASALLE	16	12
FED. ROAD DIST. NO.		ILLINOIS	NON-FED. AID PROJECT	

NOTES

BAR SPLICER ASSEMBLIES SHALL BE OF AN APPROVED TYPE AND SHALL DEVELOPE 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 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) = $1.25 \times f_{s_{allow}} \times A_t$

WHERE f_y = YIELD STRENGTH OF LAPPED REINFORCEMENT BARS IN KSI.
 $f_{s_{allow}}$ = ALLOWABLE TENSILE STRESS IN LAPPED REINFORCEMENT BARS IN KSI (SERVICE LOAD)
 A_t = TENSILE STRESS AREA OF LAPPED REINFORCEMENT BARS.
 • = 28 DAY CONCRETE

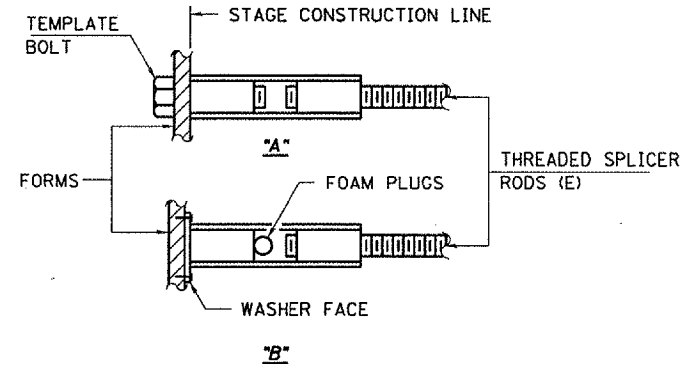
THE DIAMETER OF THIS PART IS THE SAME AS THE DIAMETER OF THE BAR SPLICED.

THE DIAMETER OF THIS PART IS EQUAL OR LARGER THEN THE DIAMETER OF THE BAR SPLICED.

ROLLED THREAD DOWEL BAR

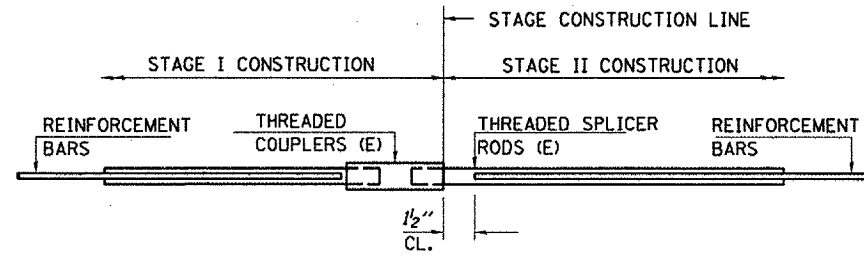
BAR SPLICER ASSEMBLY ALTERNATIVES

•HEAVY HEX NUTS CONFORMENG 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.



STANDARD

NOTE: QUANTITIES REFLECT ONE STRUCTURE ONLY

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 SPLICERS ASSEMBLIES WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "BAR SPLICERS".

CONCRETE PAD

BAR SPLICER FOR #5 BAR
MIN. CAPACITY = 23.0 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 9.2 KIPS - TENSION
NO. REQUIRED = 24

ABUTMENT BACKWALL

BAR SPLICER FOR #5 BAR
MIN. CAPACITY = 23.0 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 9.2 KIPS - TENSION
NO. REQUIRED = 7

APPROACH PAVEMENT

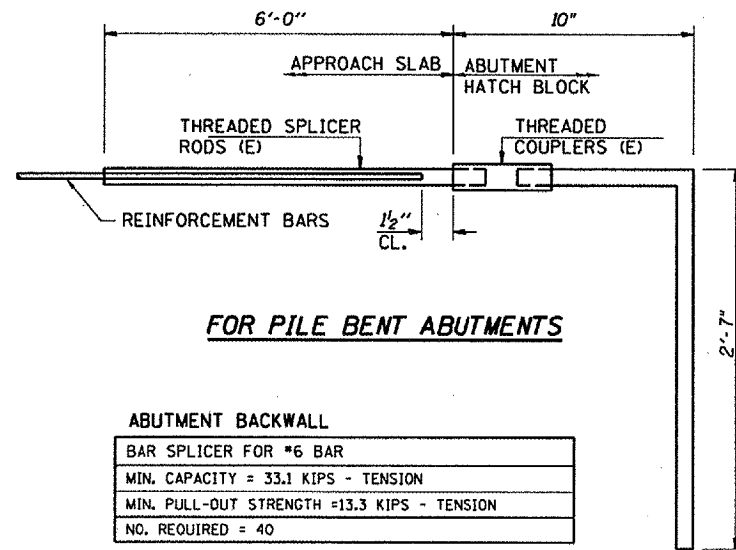
BAR SPLICER FOR #4 BAR
MIN. CAPACITY = 14.7 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 5.9 KIPS - TENSION
NO. REQUIRED = 8

BAR SPLICER FOR #6 BAR
MIN. CAPACITY = 33.1 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 13.3 KIPS - TENSION
NO. REQUIRED = 4

BAR SPLICER FOR #5 BAR
MIN. CAPACITY = 23.0 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 9.2 KIPS - TENSION
NO. REQUIRED = 30

APPROACH PAVEMENT CONNECTOR

BAR SPLICER FOR #6 BAR
MIN. CAPACITY = 33.1 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 13.3 KIPS - TENSION
NO. REQUIRED = 7



FOR PILE BENT ABUTMENTS

ABUTMENT BACKWALL

BAR SPLICER FOR #6 BAR
MIN. CAPACITY = 33.1 KIPS - TENSION
MIN. PULL-OUT STRENGTH = 13.3 KIPS - TENSION
NO. REQUIRED = 40

NOTE: QUANTITIES SHOWN REFLECT ONE STRUCTURE ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
 F.A.I. ROUTE 39 OVER NORFOLK SOUTHERN RAILROAD
 F.A.I. ROUTE 39 SECTION: (50-1VB)-3
 LASALLE COUNTY
 STA. 565+86.08

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