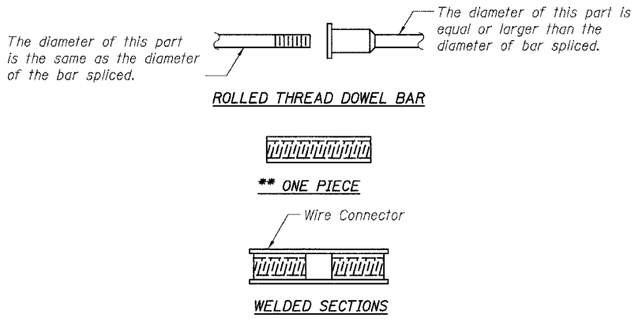
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
711	115(BY)BR	VERMILION	93	43
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

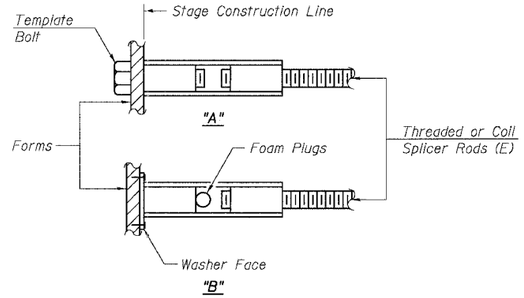
SHEET NO. 24
28 SHEETS

CONTRACT NO. 90843



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.

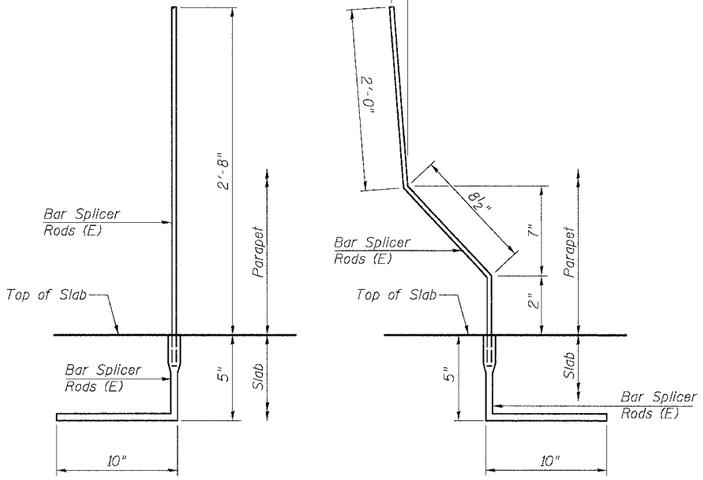
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

1. Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$
2. Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (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 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 splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

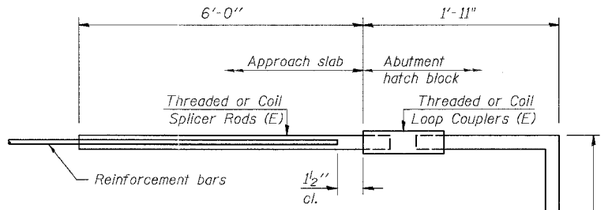


FOR OUTSIDE FACE OF NORTH PARAPET

Bar Splicer for #4 bar
Min. Capacity = 14.7 kips - tension
Min. Pull-out Strength = 5.9 kips - tension
No. Required = 215

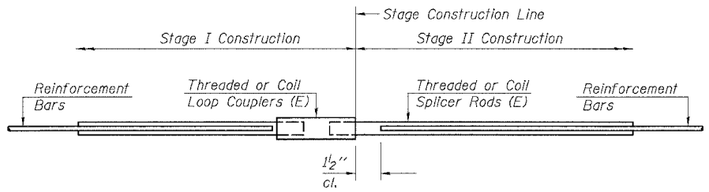
FOR INSIDE FACE OF NORTH PARAPET

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 215



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 124



STANDARD

Bar Size	No. Assemblies Required	Location
#5	516	Deck
#6	10	Abut Diaphragms
#4	8	Pier Diaphragms
#6	4	Pier Diaphragms
#7	14	Deck
#7	16	Abuts.
#5	16	Abuts.
#6	8	Abuts.
#8	20	Piers
#5	52	Piers

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE: BAR SPLICER DETAILS

PROJECT: US RTE 136 OVER BLUEGRASS CREEK
FAP ROUTE 711 SECTION 115(BY)BR
VERMILION COUNTY
STATION 236+24.70
STRUCTURE NUMBER 092-0200

PROJECT NO. 01054
SCALE
DATE 05/18/04
DRAWN BY TFG
CHECKED BY KPS/CME/MCB
DRAWING NO. 24 OF 28 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

05/17/2004 "24" sht/dgn