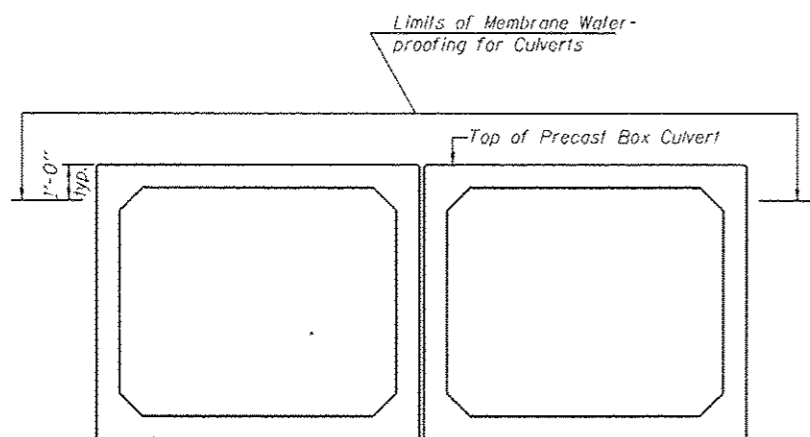


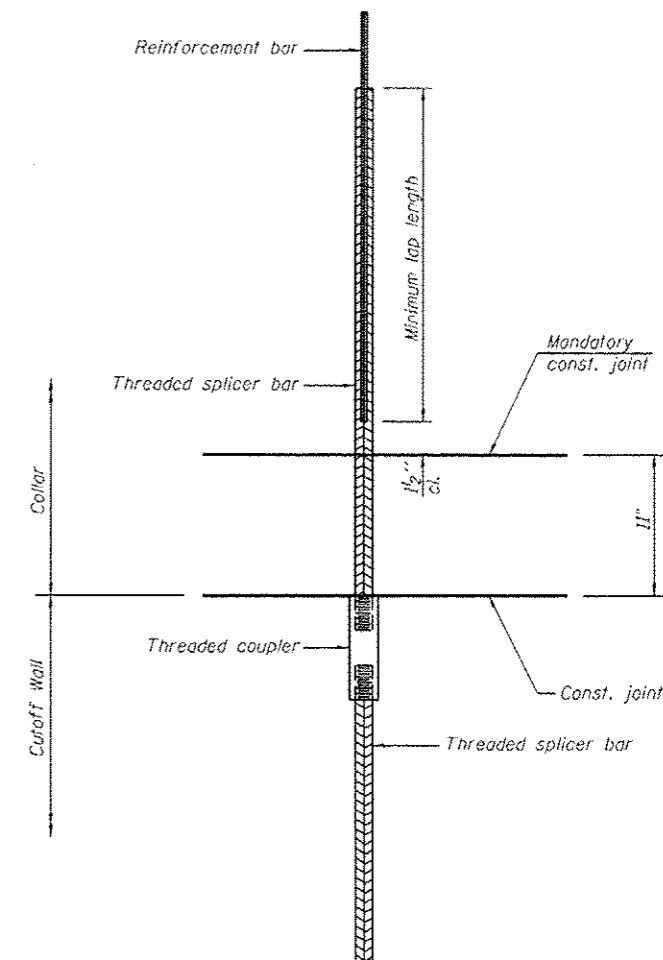
(Looking at Headwalls)



(Looking at Box Sections)

**LIMITS OF MEMBRANE
WATERPROOFING
FOR CULVERTS**

Note: Membrane Waterproofing for Culverts shall cover top of the top slab, top one foot of side walls, and 6 inches up inside face of the headwalls.



BAR SPLICER ASSEMBLY FOR BOX CULVERT END SECTION

Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar lap, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

Location	Bar size	No. assemblies required	Table for minimum lap length
* Cutoff Wall	5	10	1

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

* For one end section

Added Sheet 1-13-14

V3 Companies of Illinois Ltd.
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Woodridge, IL 60517
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USER NAME	DESIGNED	REVISIONS
CJB	CJB	1
CCF	CCF	2
CCF	CCF	3
CJB	CJB	4

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS AND WATERPROOFING LIMITS
STRUCTURE NO. 050-2056

SHEET NO. 6 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
786	110BR-3	LASALLE	69	39
CONTRACT NO. 66B19				

ILLINOIS FED. AID PROJECT