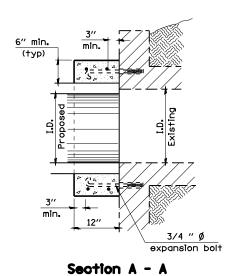
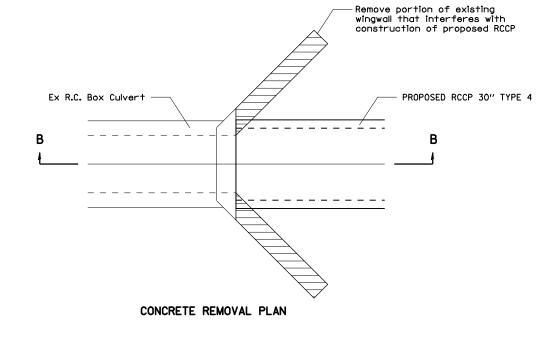
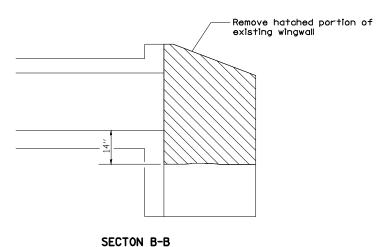


PIPE CULVERT EXTENSION COLLAR





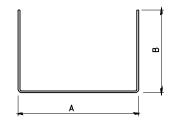


3/4 " Ø expansion bolt

Expansion Bolt Detail

Notes:

- Expansion bolts shall consist of self drilling expansion shields and ¾" Ø hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete. Minimum Certified Proof Load - 4,080 lbs.
- 2. Use minimum of 1 (one) expansion bolt at each corner.
- 3. The "CONCRETE COLLAR" is paid for as an each item.
- 4. All "Reinforcement Bars" and "Concrete Removal" is included in the "CONCRETE COLLAR" pay item.



#4 U - bar

EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS

	No. Expansion Bolts Req'd. Per Side									
H or S	Exter	nsìon ≦15ft	Extension > 15ft							
n or s	No.	Spacing	No.	Spacing						
24"	*	*	米	米						
30"	2	2 18" 2		18"						
36"	2 24"		2	24"						
48′′	3	18"	3	18"						
60"	4	16"	3	24"						
72"	5 15"		4	20"						
84"	5	18"	4	24"						
96"	6 17"		5	21"						
108"	6	19"	5	24"						
120"	7	18"	6	21"						
132"	8	17"	6	24"						
144''	8	19"	7	22"						

Note: Number of expansion bolts in table based on non-skewed culverts.

* Use minimum 1 (one) expansion bolt in each corner.

١			Existing	Proposed		Caller		R€	infor	cement B	Expansion	Class SI Concrete				
Station	Skew	Culvert	Culvert		Collar		U bar						Bolts 3/4 "	Collar		
		Sîze	I.D.	0.D.	Height	Width	No.	Sîze	Α	В	Lap	Length	Ь	Each	cu yd	
	662+00 (EB-72)	NONE	2' x 2'	30"	37"	4′-1″	4′-1′′	4	#4	3'-10"	2'-9"	1'-8"	9'-4''	30	8	0.34

FILE NAME =	USER NAME = laughlinrl	DESIGNED -	BKL	REVISED -								SECTION	COUNTY TOTAL	AL SHEET
c:\pw_work\PWIDOT\LAUGHLINRL\dØ128581\D	2C77-sht-details.dgn	DRAWN -	BKL	REVISED -	STATE OF ILLINOIS	NCRETE COLLAR AI	ND CULVE	RT EXTENS	ION DETAIL	72	•	SANGAMON 100	34	
	PLOT SCALE = 100,0000 '/ IN.	CHECKED -	JPM	REVISED -	DEPARTMENT OF TRANSPORTATION	SCALE: N.A. SHEET NO. OF SHEETS STA. TO STA.					1			72C77
	PLOT DATE = May-07-2009 08:20:01AM	DATE -	04/10/09	REVISED -						TO STA.		ILLINOIS FED. AI		