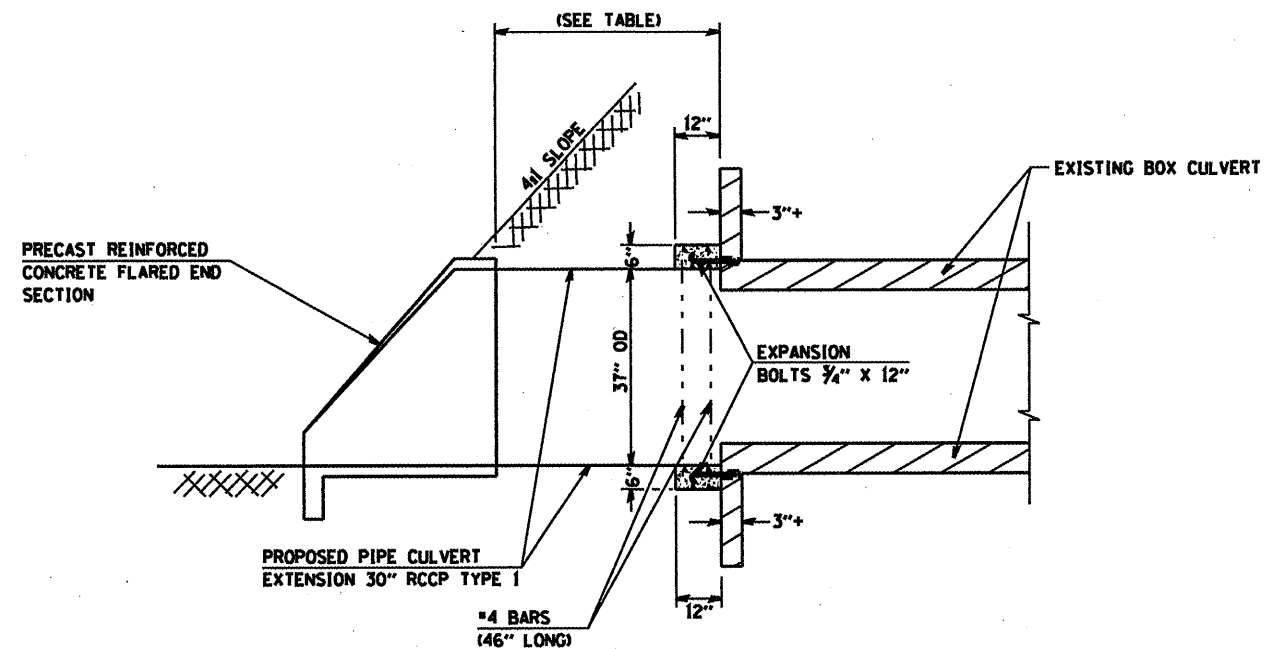


**EXPANSION BOLT AND REINFORCING STEEL LAYOUT  
FOR EXTENSION OF 2' x 2' BOX CULVERT @ STA. 440+84 LT  
AND 1.5' x 2' BOX CULVERT @ STA. 432+80 LT & RT,  
NOT TO SCALE**



**SECTION VIEW SHOWING CONCRETE COLLAR DETAILS  
FOR EXTENSION OF BOX CULVERTS  
NOT TO SCALE**

**GENERAL NOTES**

CLASS SI CONCRETE SHALL BE USED FOR CONCRETE COLLAR. FOR BACKFILLING AND EMBANKMENT SEE STANDARD SPECIFICATIONS. REINFORCED BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, #42 OR #53, GRADE 60. EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 3/4" DIA. HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE. MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

**BILL OF MATERIALS**

LOCATION	PRECAST REINFORCED CONCRETE FLARED END SECTION 30"	PIPE CULVERTS, CL. A, 1, 30"	GRATING FOR CONCRETE FLARED END SECTION 30"	EXPANSION BOLTS 3/4" x 12"	REINFORCEMENT BARS	CONCRETE COLLAR
(STATION)	(EACH)	(FOOT)	(EACH)	(EACH)	(LBS)	(CY)
432+80 LT	1	8.5	1	4	20.5	0.34
432+80 RT	1	7.5	1	4	20.5	0.34
440+84 LT	1	5	1	4	20.5	0.34
TOTALS	3	21.0	3	12	61.5	1.0

(NO SCALE)

FILE NAME *	USER NAME * alford	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BOX CULVERT EXTENSIONS</b>	F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
al\ps_work\pds\alford\08174224\0876	59-shr-plan.dgn	DRAWN - TRF	REVISED -			3231-1000	32RS-3, 3IRS-3, IRS-1	ST. CLAIR	56	38	
	PLOT SCALE = 48.0000' / IN.	CHECKED -	REVISED -			CONTRACT NO. T6069					
	PLOT DATE = 3/2/2010	DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
				SCALE: NONE	SHEET NO. OF SHEETS	STA.	TO STA.				