

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	2ZRS-1	CRAWFORD	191	135
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

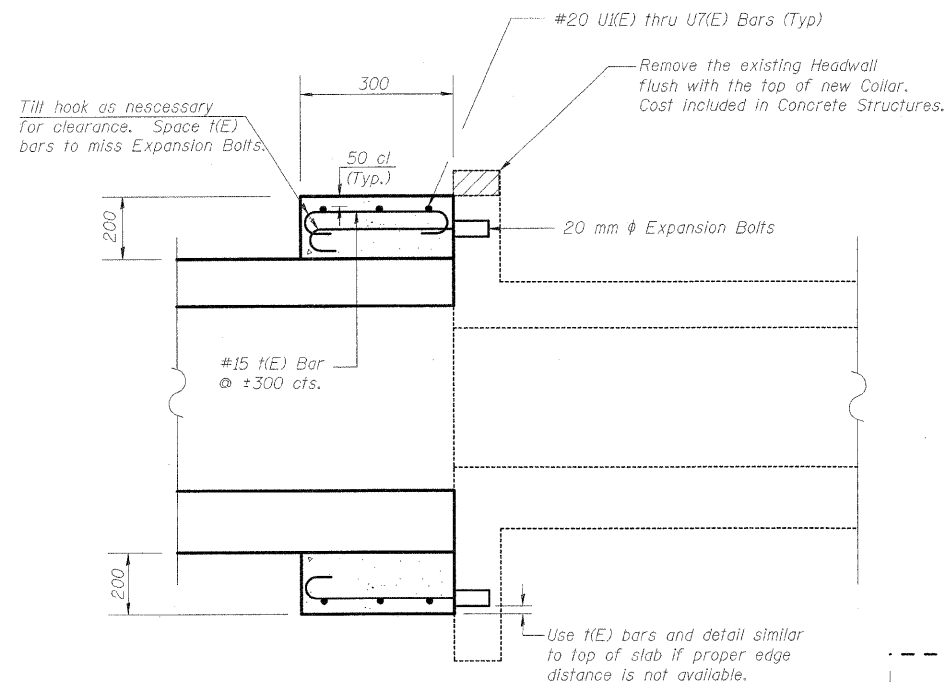
DIMENSIONS & BAR LIST

Box Culvert No.	S* (mm)	R* (mm)	Expansion Bolts				U1(E) thru U7(E) Bars			I(E) Bars		
			Top Slab	Bottom Slab	Each Wall	Total	Designation	A*(m)	B*(m)	No. Req'd	Top Slab	v. bars
1	1500	1175**	3	3	3	21	U1(E)	1.40	0.94	9	6	6
4	1200	1325	3	3	3	24	U2(E)	1.10	1.01	12	5	

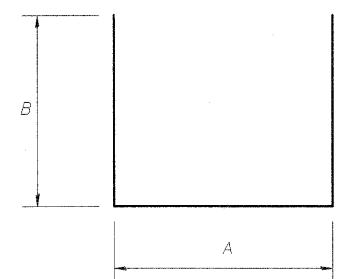
* Contractor to verify dimension based on actual culvert size provided by fabricator.
 ** Modify this dimension to accommodate the steel plate. (See Sheet S8 of 9)

BAR DETAILS

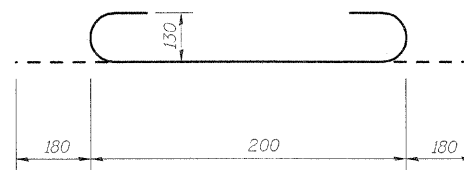
Bar	No.	Size	Length (m)	Shape
I(E)	52	#15	0.56	
U1(E)	9	#20	3.28	
U2(E)	24	#20	3.12	
U3(E)	12	#20	7.04	
U4(E)	12	#20	2.84	
U5(E)	9	#20	3.42	
U6(E)	12	#20	2.98	
U7(E)	12	#20	3.14	
V(E)	12	#20	0.90	



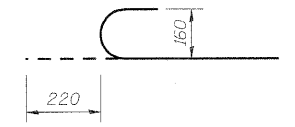
LONGITUDINAL SECTION



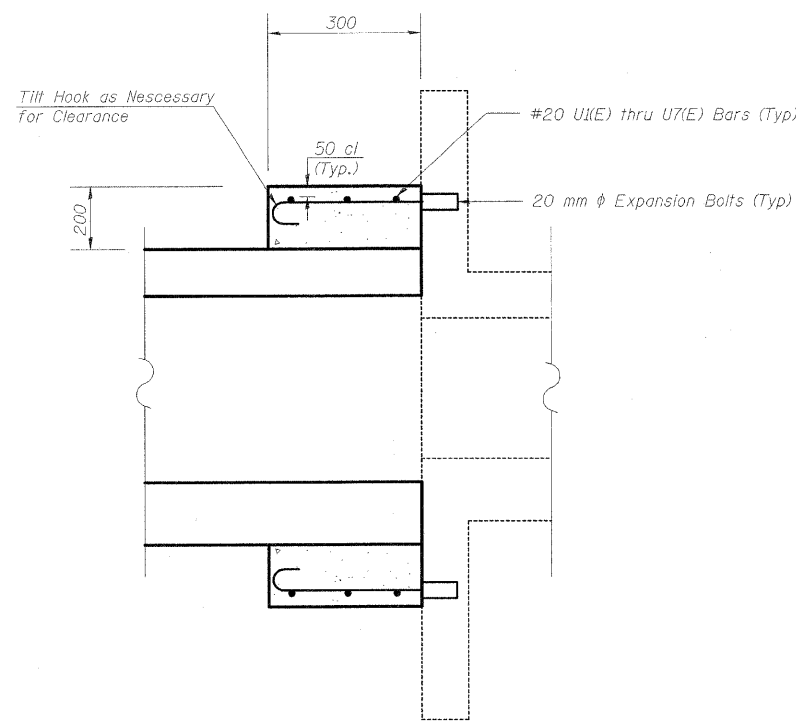
U1(E) THRU U7(E) BARS



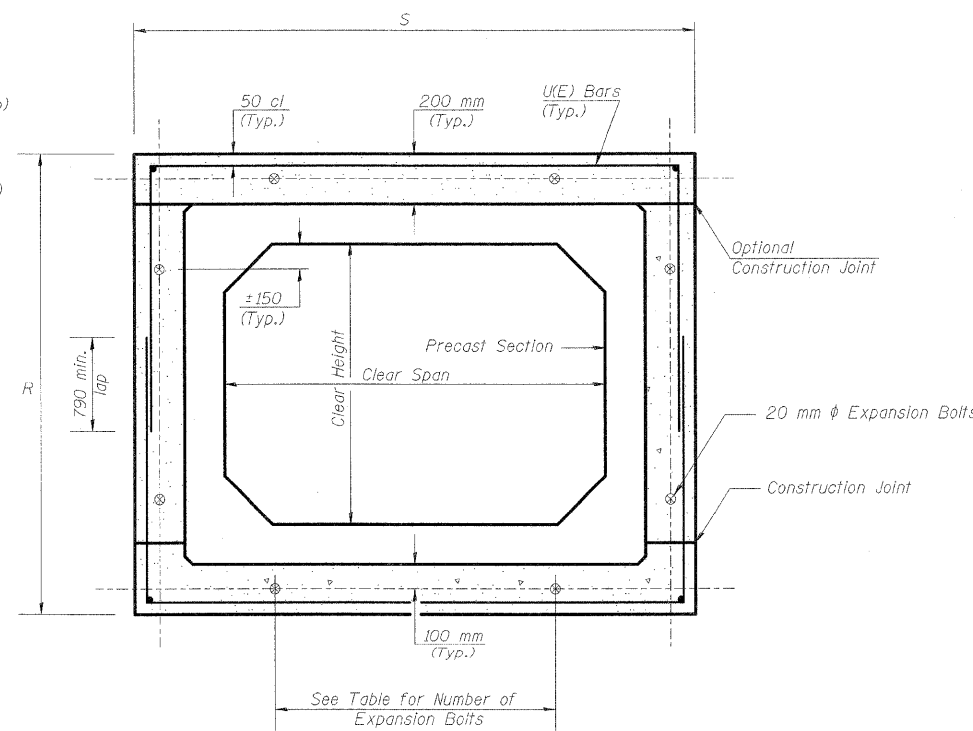
I(E) BAR



EXPANSION BOLT HOOK

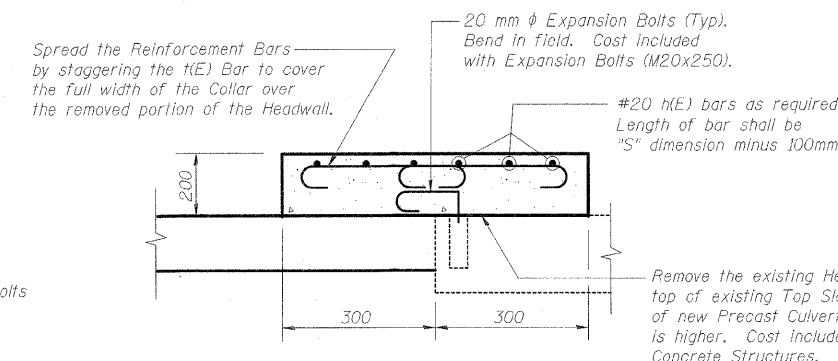


PLAN



CROSS SECTION THRU BARREL

See Sheet S18 of 19 when Steel Plate is required.



ALTERNATE FOR TOP COLLAR

If the Headwall is spalled or has unsound concrete, remove the Headwall flush with Top Slab and extend the top portion of new Collar to cover the area of Headwall. Anchor the top portion of Collar to Top Slab of Existing Culvert.

REVISIONS	
NAME	DATE
LWJ	2-02-09

ILLINOIS DEPARTMENT OF TRANSPORTATION
 BOX CULVERT EXTENSIONS
 CAST-IN-PLACE COLLAR DETAILS

SCALE NONE DRAWN BY MLB
 DATE DECEMBER 10, 2006 CHECKED BY MTH