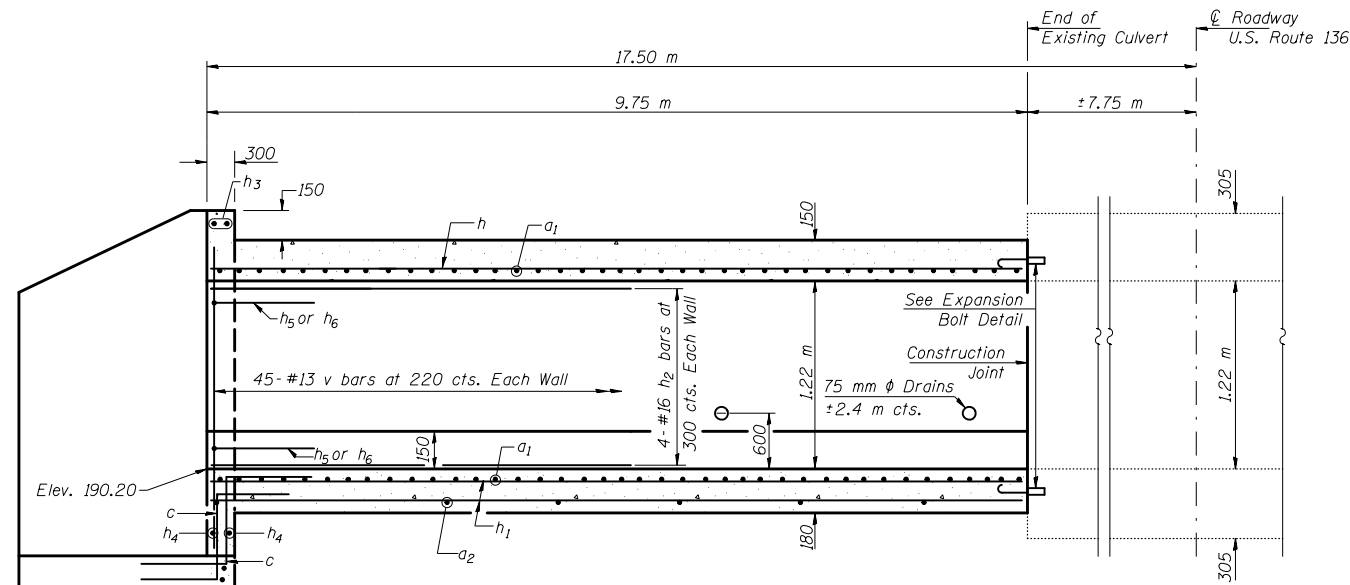
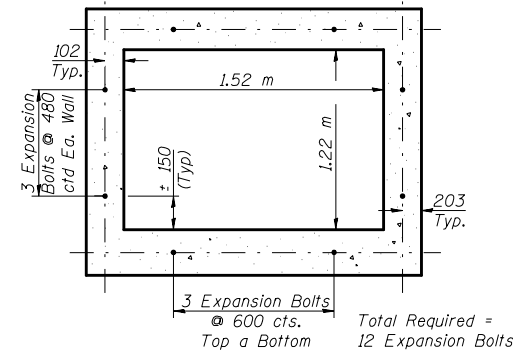


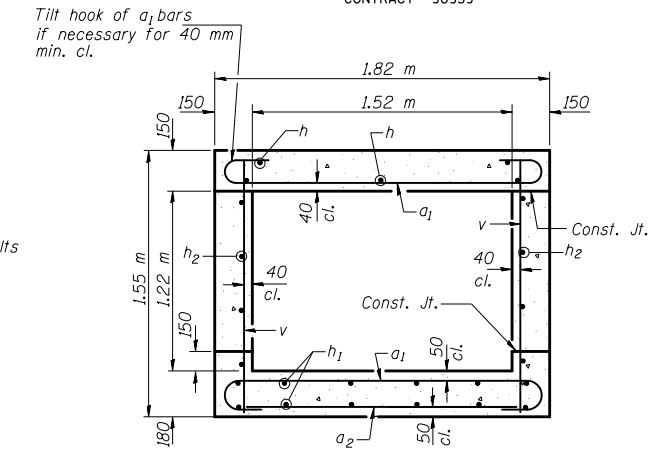
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
729	*	VERMILION	298	153
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• 36(W,RS-1) & 34Z-2(W,RS) CONTRACT #90939				



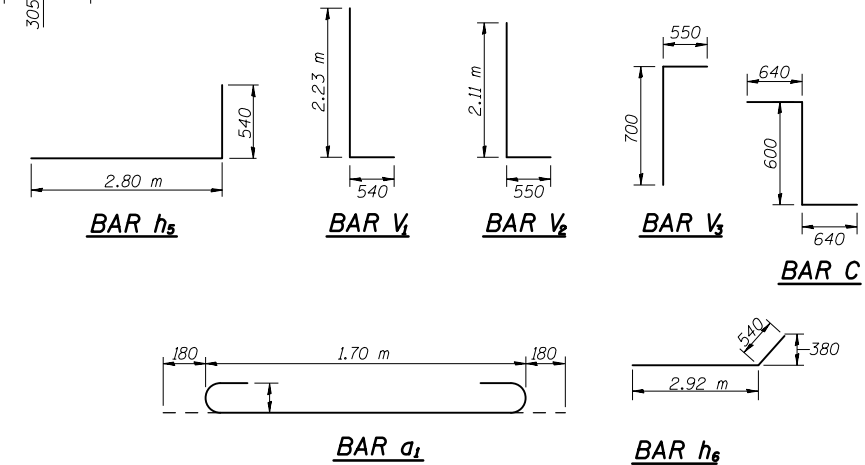
LONG SECTION



**EXPANSION BOLT DETAILS
END VIEW OF EXISTING BAREL**



SECTION THRU BARREL



BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
a ₁	90	#16	2.06	U
a ₂	17	#13	1.70	—
b	6	#13	8.30	—
C	10	#13	1.88	L
h	6	#19	9.70	—
h ₁	12	#13	9.70	—
h ₂	8	#16	9.70	—
h ₃	2	#19	4.80	—
h ₄	6	#13	4.80	—
h ₅	10	#13	3.34	—
h ₆	16	#16	3.46	—
h ₇	14	#13	1.88	—
v	90	#13	1.48	—
v ₁	18	#13	2.77	L
v ₂	20	#16	2.66	L
v ₃	19	#13	1.25	L
Concrete Box Culverts			m ³	16.64
Reinforcement Bars			kg	1235
Expansion Bolts (M20)			Ea.	12
Chain Link Fence, 1.2m			m	10.00

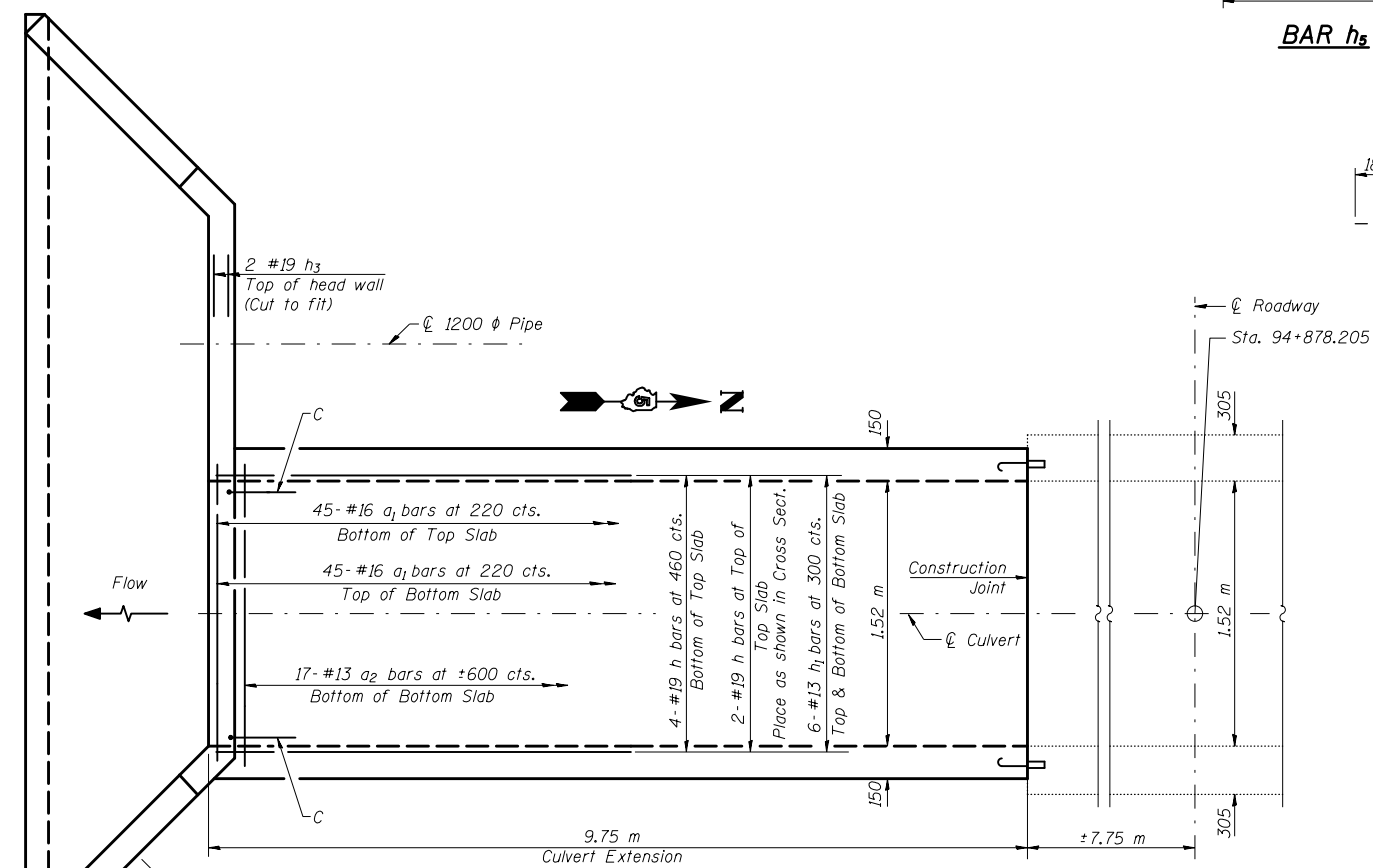
DESIGN STRESSES

f_y = 420 MPa
f'c = 24 MPa

LOADING MS18 & ALT.

NOTES

Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 420.
All dimensions are in millimeters (mm) except as noted.
All construction joints shall be bonded.
See Sheet # 2 of 2 for Wingwall and Apron Details.
The Chain Link Fence, 1.2 meter, shall be erected behind the headwall and wingwalls. All work regarding the fence shall conform to Section 664 of the Standard Specifications.



PLAN

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION BOX CULVERT EXTENSION STA. 94+878.205 F.A. RTE. 729 (US 136) SECTION 36(W,RS-1) & 34Z-2(W,RS) VERMILION COUNTY
NAME	DATE	
		SCALE N.T.S. DATE 8/03 DRAWN BY JMD CHECKED BY STD

ct:\pw\work\pwidot\ceer\lock\j\d0313241\culvert.dgn
8/17/2012