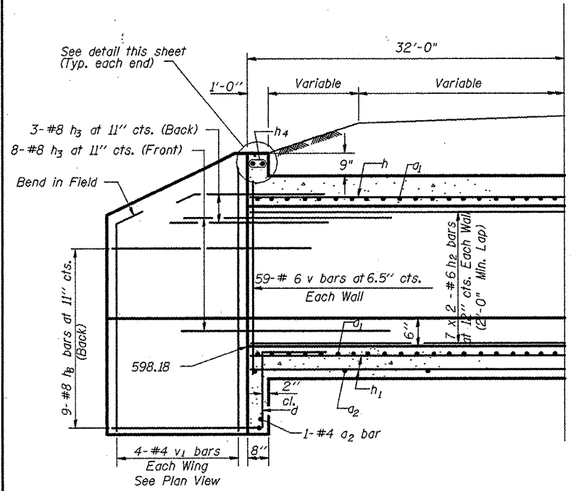
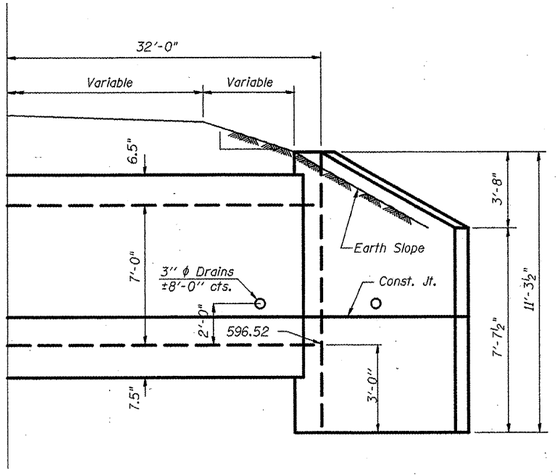
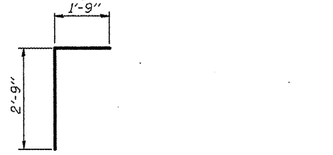


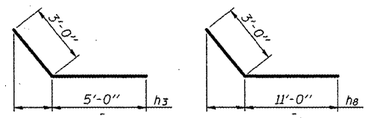
HALF LONG. SECTION



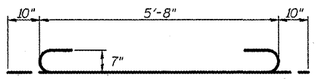
HALF ELEVATION



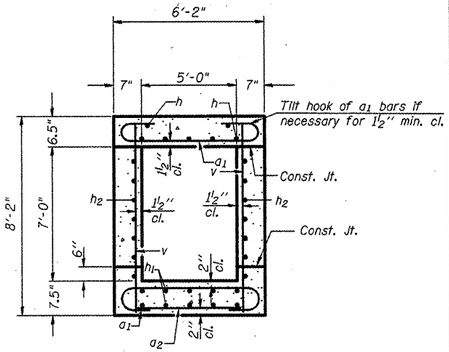
BAR d



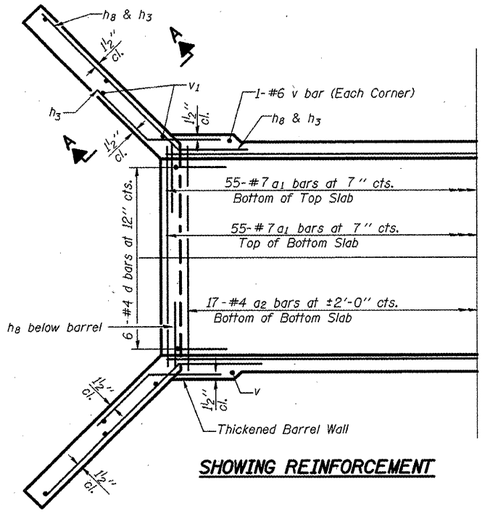
BARS h3 **BARS h8**



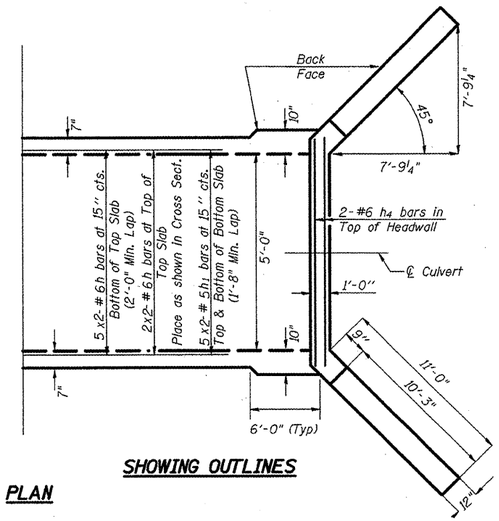
BAR a1



SECTION THRU BARREL

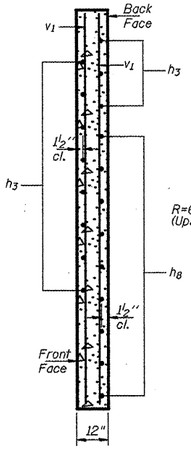


SHOWING REINFORCEMENT

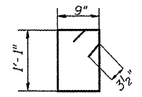


SHOWING OUTLINES

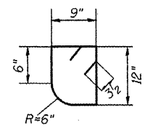
PLAN



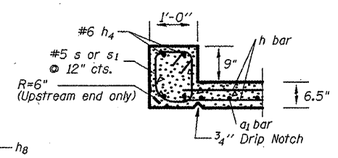
SECTION A-A



DOWNSTREAM HEADWALL DETAIL, s



UPSTREAM HEADWALL DETAIL, s



HEADWALL DETAIL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	220	#7	7'-4"	
a2	36	#4	5'-8"	
d	12	#4	4'-6"	
h	28	#6	16'-10"	
h1	40	#5	16'-8"	
h2	56	#6	16'-10"	
h3	44	#8	8'-0"	
h4	4	#6	5'-10"	
h8	36	#8	14'-0"	
v	240	#6	8'-2"	
v1	16	#4	10'-11"	
s	6	#5	4'-5"	
s1	6	#5	4'-5"	
Concrete Removal		Cu. Yd.	27.7	
Concrete Box Culverts		Cu. Yd.	54.9	
Reinforcement Bars		Pound	11725	
¾" ϕ Expansion Bolts		Each	28	
Str Rep Con DP =<5		Sq. Ft.	59.2	
Rock Fill		Ton	81.2	
Geotech. Fabric		Sq. Yd.	68.8	
Filter Fabric		Sq. Yd.	135.4	
R&D Unsuitable		Cu. Yd.	39.6	
Temp. Soil Retention		Sq. Ft.	522.1	

DESIGN STRESSES

fy = 60,000 psi
f'c = 3,500 psi

There are approximately 10 small repair areas throughout the length of the existing 5x7 box culvert. Final locations of patches shall be determined by the Engineer.

LOADING HS 20-44 & ALT.

NOTES

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
All construction joints shall be bonded.

SSB-H-0 10-22-04

FILE NAME = miscellaneous_sheets.dgn	USER NAME = horstkj	DESIGNED - KJH	REVISED -
		DRAWN - JGJ	REVISED -
	PLOT SCALE = 100.0000 ' / IN.	CHECKED - BJT	REVISED -
	PLOT DATE = 4/19/2010	DATE - 01-05-10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT EXTENSION DETAIL STA 705+03

SCALE: | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	101
		CONTRACT NO. 88703		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		