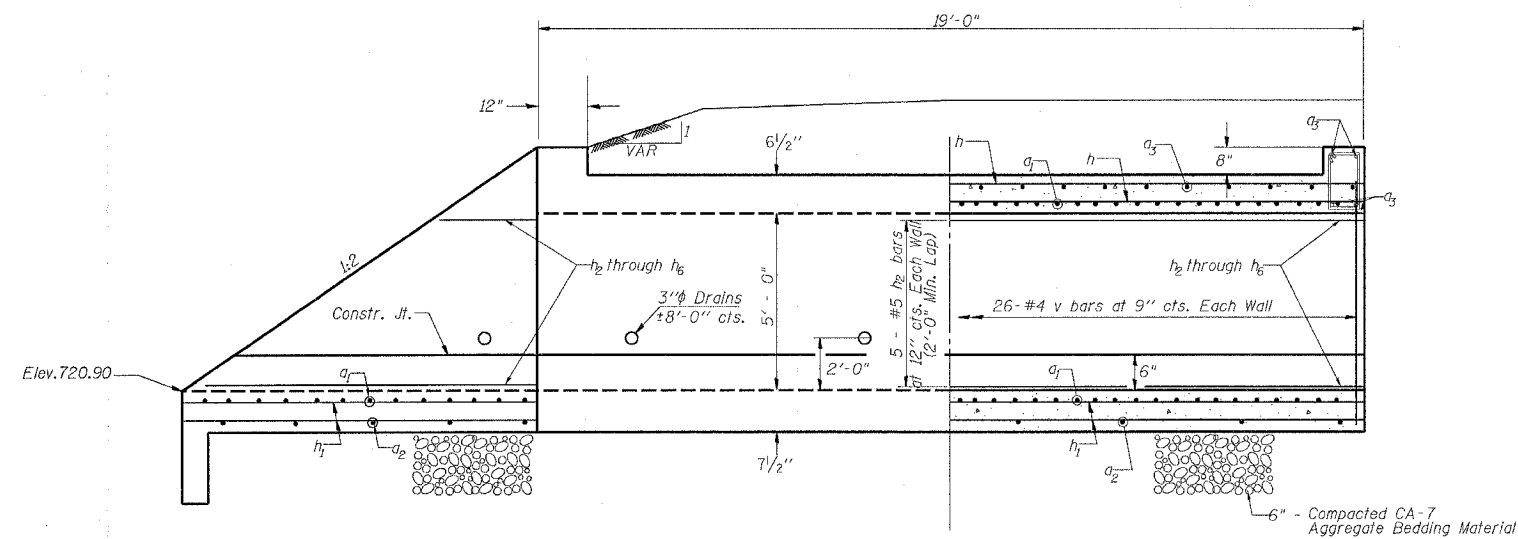


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	116RS-1	OGLE	593	209
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

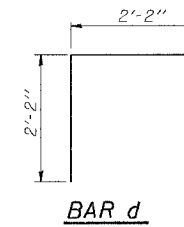
CONCRETE BOX CULVERTS

STA. 584 + 14.64 RT

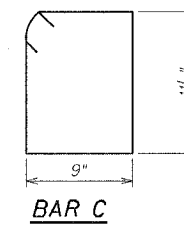


HALF ELEVATION

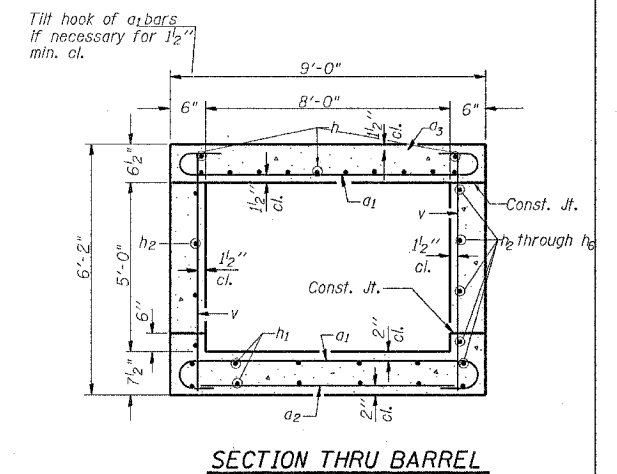
HALF LONG. SECTION



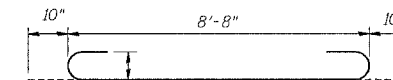
BAR d



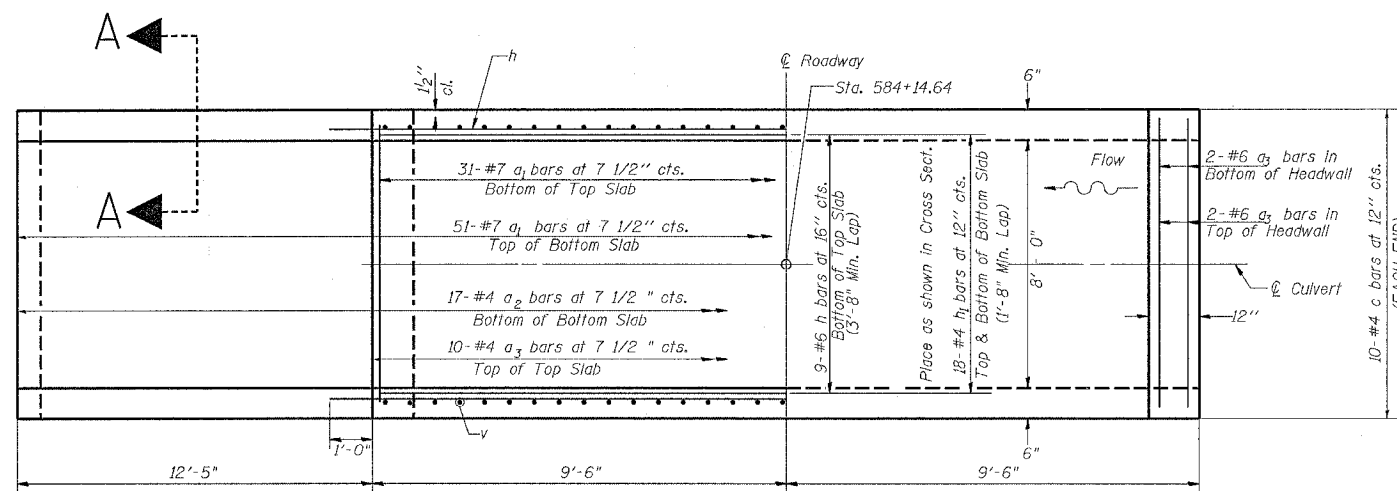
BAR c



SECTION THRU BARREL



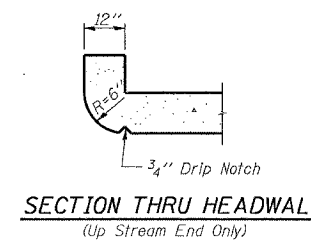
BAR a1



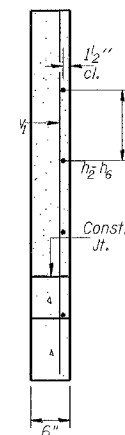
SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN



SECTION THRU HEADWALL
(Up Stream End Only)



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a	3	#4	8'-9"	—	
a1	82	#7	10'-4"	—	
a2	17	#4	8'-3"	—	
a3	18	#6	8'-9"	—	
d	10	#5	4'-4"	—	
h	9	#6	18'-9"	—	
h1	18	#4	31'-3"	—	
h2	2	#5	21'-8"	—	
h3	2	#5	23'-8"	—	
h4	2	#5	25'-8"	—	
h5	2	#5	27'-8"	—	
h6	2	#5	29'-8"	—	
h7	2	#5	13'-5"	—	
v	52	#4	5'-10"	—	
v1	15	#4	7'-4"	—	
C	20	#4	3'-6 3/4"	—	
Concrete Box Culverts				Cu. Yd.	15.70
Reinforcement Bars				Pound	3372.80
Expansion Bolts, 3/4"				Each	16

DESIGN STRESSES

$f_y = 60,000$ psi
 $f'_c = 3,500$ psi

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 AASHTO M-31, M-42 or M-53, Grade 60.
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

All construction joints shall be bonded.

6" of compacted CA-7 aggregate bedding material shall be placed beneath the box culvert. The cost for the CA-7 aggregate shall be included in the cost of Concrete Box Culverts.

The cost of excavation and backfilling shall be included in the cost of Concrete Box Culverts.