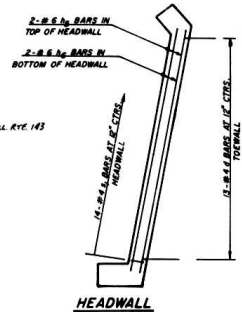
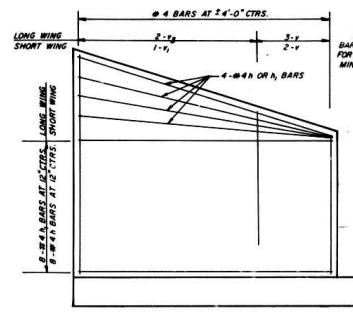


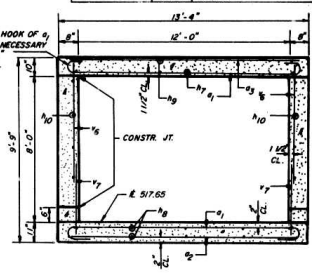
ELEVATION



HEADWALL

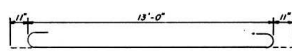
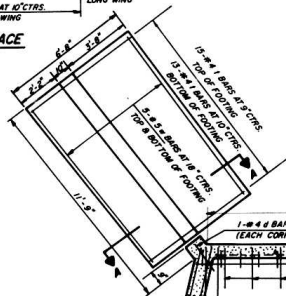


REINF. FRONT FACE

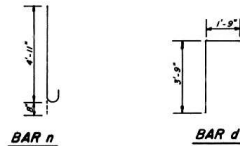


SECTION THRU BARREL

REINF. BACK FACE



BAR a1



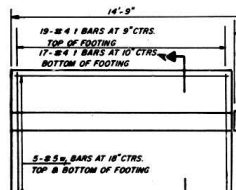
BAR n

BAR d

BAR s1

BILL OF MATERIAL

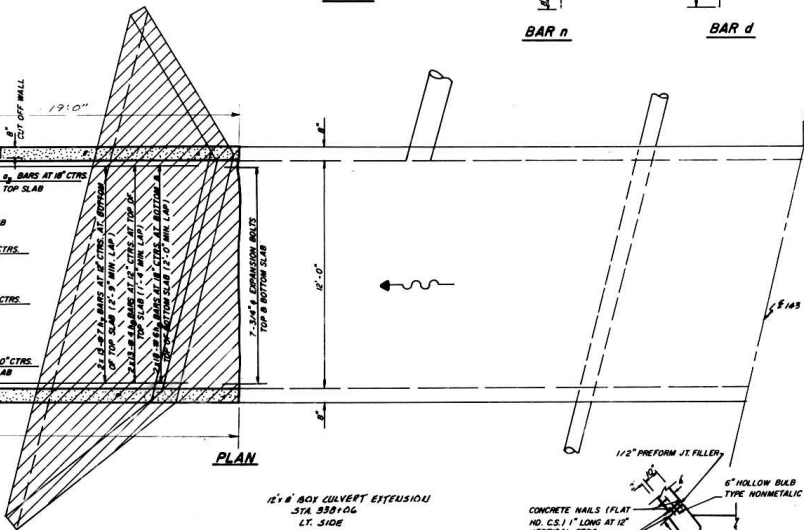
BAR	NO.	SIZE	LENGTH
a1	44	1/2"	18'-10"
a2	12	1/2"	12'-3"
a3	15	5/8"	12'-3"
d	29	3/8"	5'-6"
h	15	1/2"	10'-9"
h1	15	1/2"	13'-9"
h2	2	5/8"	13'-2"
h3	4	5/8"	13'-9"
h4	26	7/8"	12'-6"
h5	35	5/8"	12'-6"
h6	25	1/2"	12'-6"
h10	15	5/8"	19'-0"
n	30	1/2"	5'-7"
s1	15	1/2"	8'-10"
t1	54	1/2"	5'-5"
v	18	1/2"	7'-8"
v1	5	1/2"	10'-1"
v2	7	1/2"	9'-10"
v3	2	1/2"	10'-6"
v4	58	1/2"	8'-2"
v7	58	1/2"	2'-6"
w	10	5/8"	10'-9"
w1	10	5/8"	13'-9"



Design stresses  
 by 150,000 psi  
 for 3,500 psi

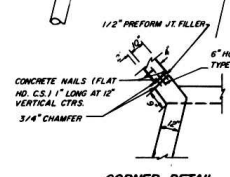
DESIGNED  
 EXAMINED  
 CHECKED  
 DRAWN  
 CHECKED

EXAMINED  
 PASSED  
 APPROVED

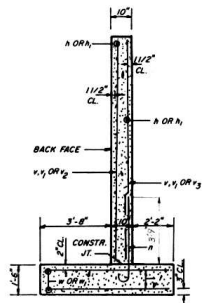


PLAN

12'-0" BOX CULVERT EXTENSION  
 STA 338+06  
 LT. SIDE



CORNER DETAIL



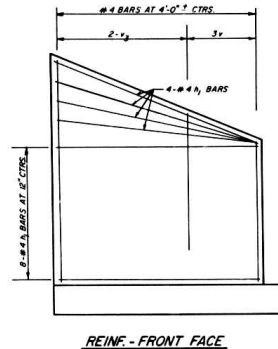
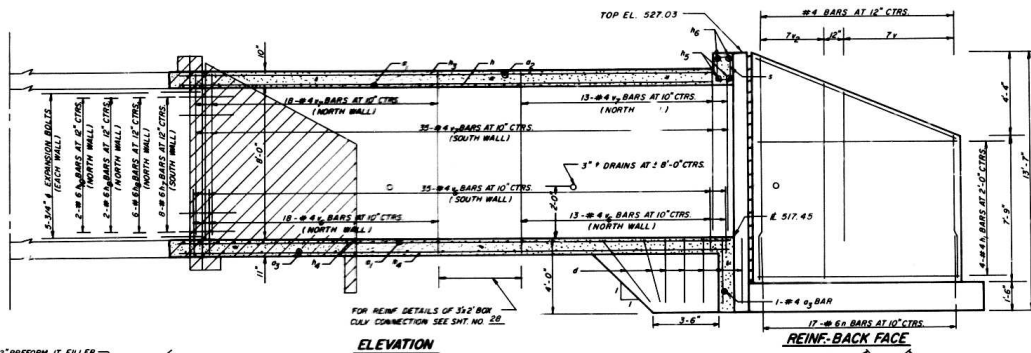
SECTION A-A

Max Soil Pressure Under Footing = 2680 P.S.F.

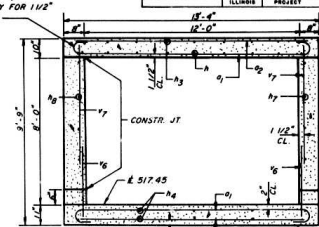
Expansion bolts shall consist of self drilling expansion shields and 3/8" hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.

NOTES  
 CLASS X CONCRETE SHALL BE USED THROUGHOUT.  
 EXPOSED EDGES SHALL BE REVEALED 3/4".  
 FOR BACKFILLING AND EMBANKMENT, SEE STANDARD SPECIFICATIONS.  
 REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-53, GRADE 60.  
 NONMETALLIC WATER SEAL USED IN THE JOINTS SHALL EXTEND FROM THE TOP OF THE FACING TO WITHIN 6" OF THE TOP OF THE HEADWALL.  
 BARS INDICATED THUS 12#4 - #5 ETC. INDICATES 12 LINES OF BARS WITH 4 LENGTHS PER LINE.

CULVERT DETAILS  
 STA. 338+06



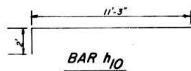
TILT HOOK OF #5 BARS  
IF NECESSARY FOR 1/2\"/>



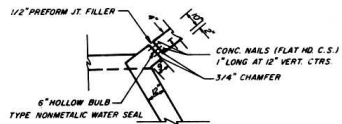
SECTION THRU BARREL



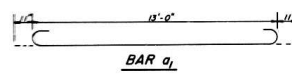
BAR h9



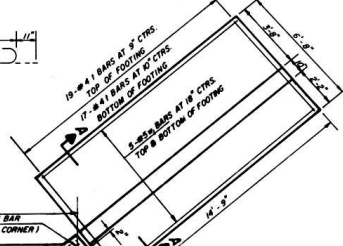
BAR h10



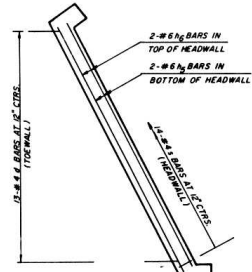
CORNER DETAIL



BAR a1



REINFORCING - FRONT FACE

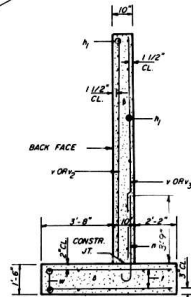


HEADWALL

Expansion bolts shall consist of self drilling expansion sheets and 3/8\"/>

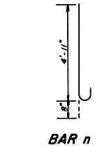


SECTION THRU HEADWALL

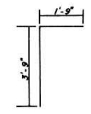


SECTION A-A

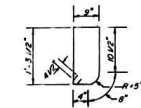
Max. Soil Pressure  
Under 17y = 2680 P.S.F.



BAR n



BAR d



BAR s

DESIGN STRESSES  
T<sub>c</sub> = 60,000 psi  
F<sub>c</sub> = 3,500 psi

PLAN

Note: For Bill of Material  
See Sheet #28

NOTES  
CLASS X CONCRETE SHALL BE USED THROUGHOUT.  
EXPOSED JOINTS SHALL BE FINISHED 3/4\"/>

R.I.B. BOX CULVERT EXTENSION- STA 338+06  
WATERWAY INFORMATION

DISCHARGE AREA	408.6 ACRES
DESIGN DISCHARGE (50 YR)	734.0 C.F.S.
DESIGN WATERWAY OPENING	96.0 SQ. FT.
DESIGN HEADWAY ELEV. (50 YR)	259.75 M.S.L.
100 YR. DISCHARGE	949.0 C.F.S.
100 YR. HEADWAY ELEV.	286.65 M.S.L.
OVERTOPPING DISCHARGE (170 YR)	800.0 C.F.S.
HEADWAY ELEV. (170 YR)	327.45 M.S.L.

CULVERT DETAILS  
STA. 338+06

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED	
PASSED	
APPROVED	