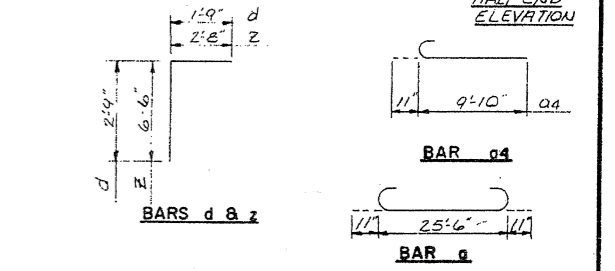
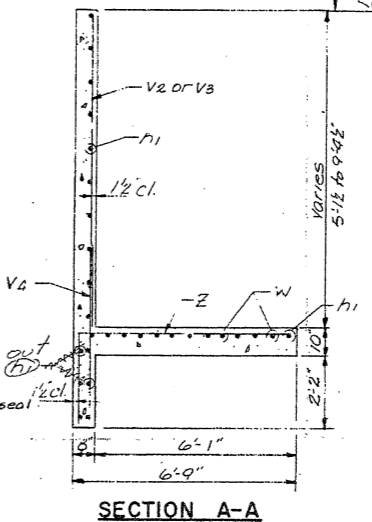
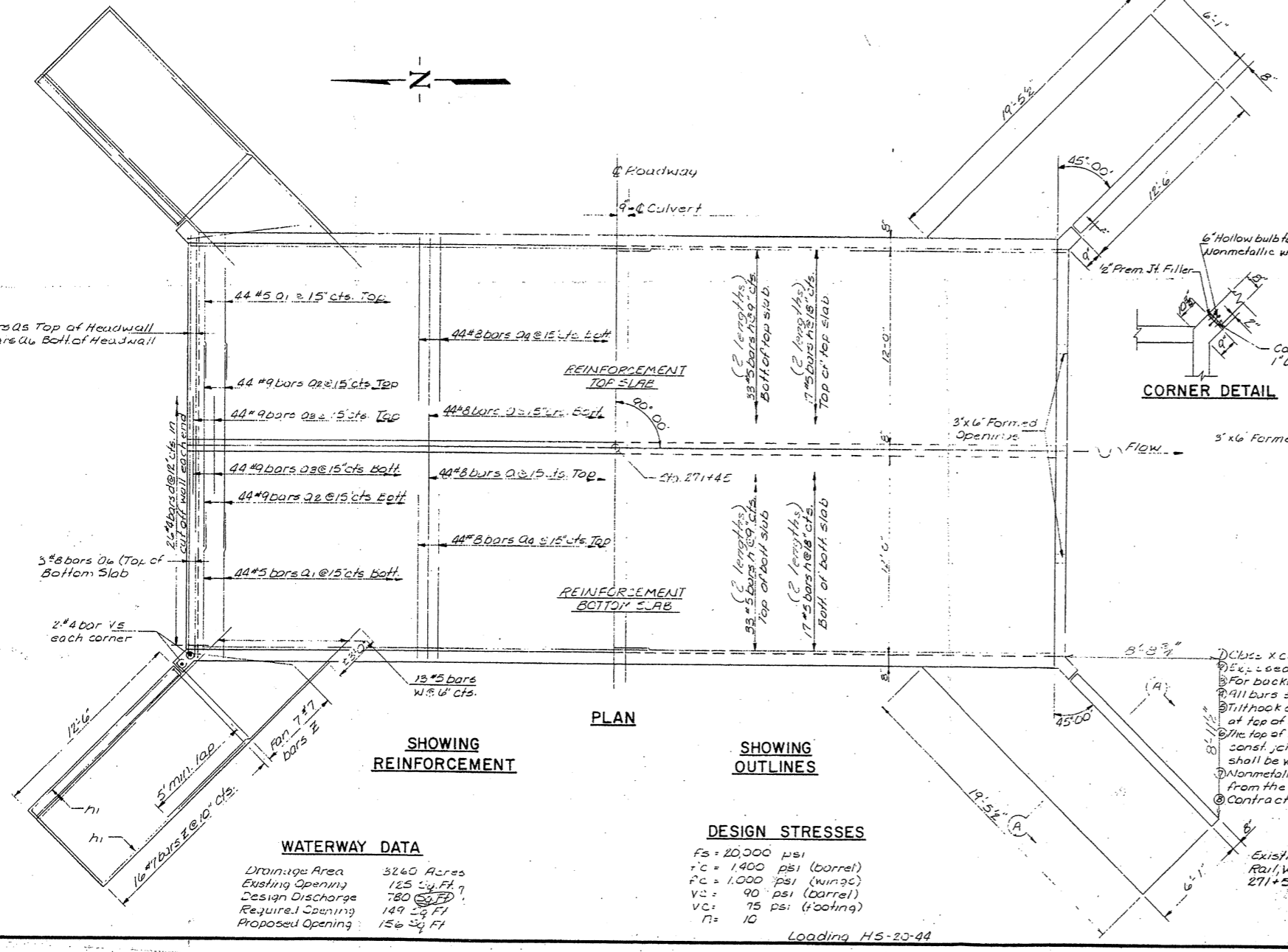
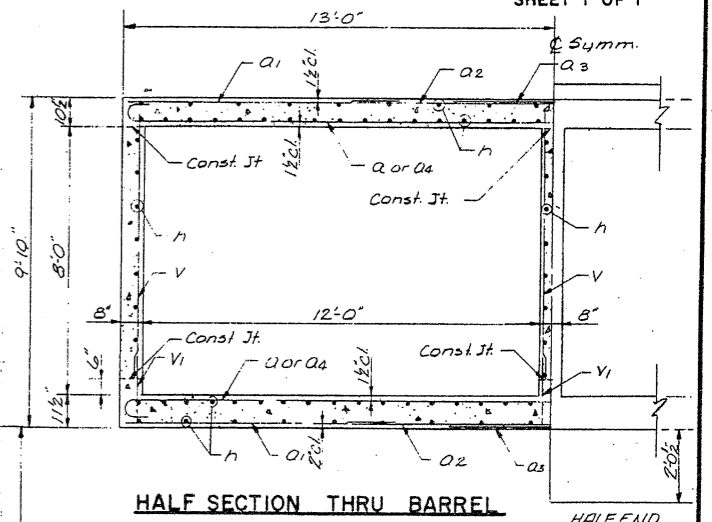
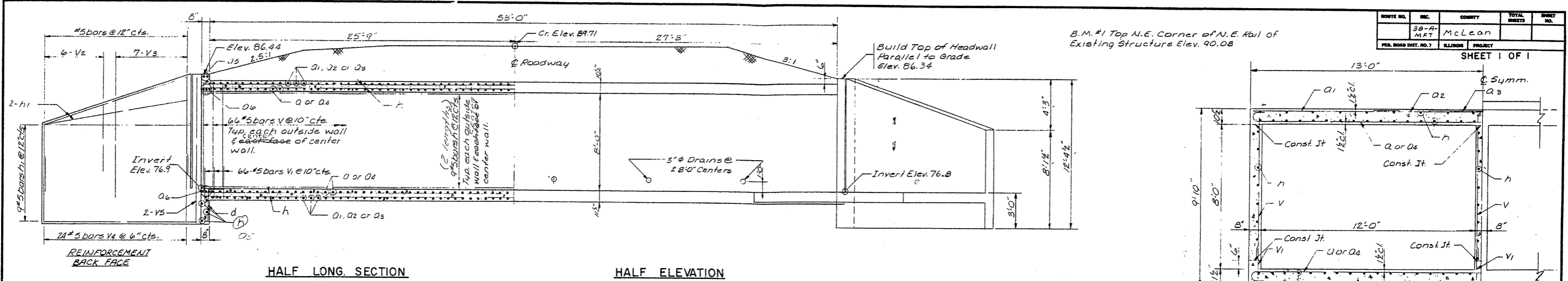


B.M. #1 Top N.E. Corner of N.E. Rail of Existing Structure Elev. 90.08

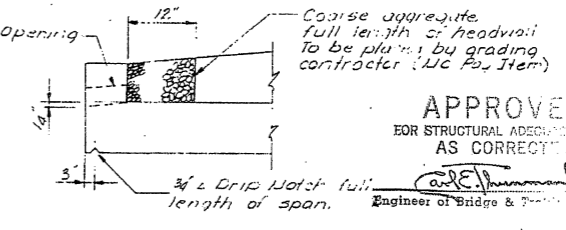


BILL OF MATERIAL

BAR NO.	SIZE	LENGTH	SHAPE
A1	#8	27'-4"	
A2	#8	11'-0"	
A3	#8	6'-0"	
V1	#8	10'-9"	
V2	#8	25'-6"	
V3	#8	25'-6"	
d	#4	4'-6"	
z	#4	2'-8"	
g	#4	25'-6"	
h1	#5	27'-9"	
h2	#5	12'-2"	
W	#5	16'-9"	
Z	#7	9'-2"	

Class x Concrete Cu Yds. 156.5
Reinforcement lbs. 34,920
Removal of Existing Structure 1

1/7 Max. Soil Pressure under γ_1 = 2673 P.S.F.



- GENERAL NOTES**
- Class x concrete shall be used in all reinforcement.
 - Exposed edges shall be beveled 90°.
 - For backfilling and embankment see std. specs.
 - All bars shall be lapped 24 dia. unless otherwise specified.
 - Hook of 'a' bars if necessary, to obtain 1/2" min. clearance at top of hook.
 - The top of the culvert, the backs of the wings above the lower const. joint & backs of the wings above the tops of the footings shall be waterproofed in accordance with Art 503.12 of the std. specs.
 - Nonmetallic water seal used in the wing wall joints shall extend from the top of the footing to within 6' of the top of the headwall.
 - Contractor shall remove existing structure prior to construction.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY AS CORRECTED
WALTER E. HANSON
Engineer of Bridge & Structures

WATERWAY DATA

Drainage Area	32.60 Acres
Existing Opening	125 Sq. Ft.
Design Discharge	780 CFS
Required Opening	149 Sq. Ft.
Proposed Opening	156 Sq. Ft.

DESIGN STRESSES

f_s	20,000 psi
f_c	1,400 psi (barrel)
f_c	1,000 psi (wings)
v_c	90 psi (barrel)
v_c	75 psi (footing)
n	10

Existing Structure: Concrete Deck, Side Rail, Wings, and Abut. Sta. 271+36 to Sta. 271+38. Rwy. 24' Clear Span 20.5 to Abut. 22'

CULVERT DETAILS
DRY GROVE ROAD DISTRICT
SECTION 38-A-MFT
McLEAN COUNTY
STATION 271+45

WALTER E. HANSON COMPANY
ENGINEERS-CONSULTANTS

DESIGNED D.W.M. DRAWN J.F.W. DATE 4/3/70
CHECKED W.C.E. CHECKED J.M.M. NO. 70012