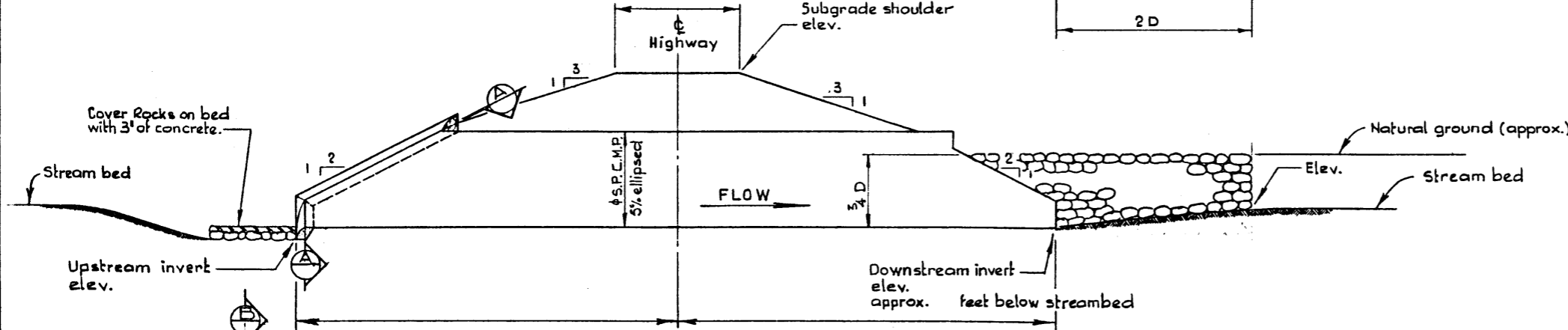


RIP - RAP GRADING

- Class I.** (average 1'-0" thick)
 90% greater than 50 lbs.
 50% greater than 75 lbs.
 Maximum size 200 lbs.
- Class II.** (average 2'-8" thick)
 90% greater than 150 lbs.
 50% greater than 500 lbs.
 Maximum size 1500 lbs.

CULVERT DIMENSIONS
(after tightening, before backfill)

Nominal	Vertical	Horizontal
120	126	114
132	138	126
144	151	137
156	164	148
168	176	160
192	201	183
216	226	206
240	292	228



QUANTITY ESTIMATE

ITEM	UNIT	EST.	CONST.
Installation SPCMP.	Lin. feet		
Class I Rock	Cu. Yds.		
Class II Rock	Cu. Yds.		
Class A Concrete	Cu. Yds.		
Reinforcing Steel	Lbs.		

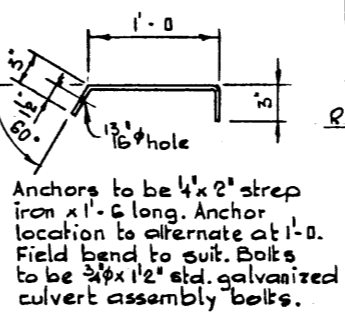
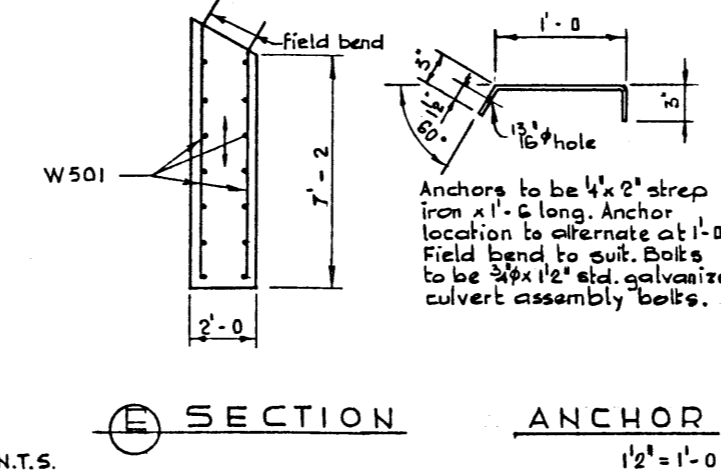
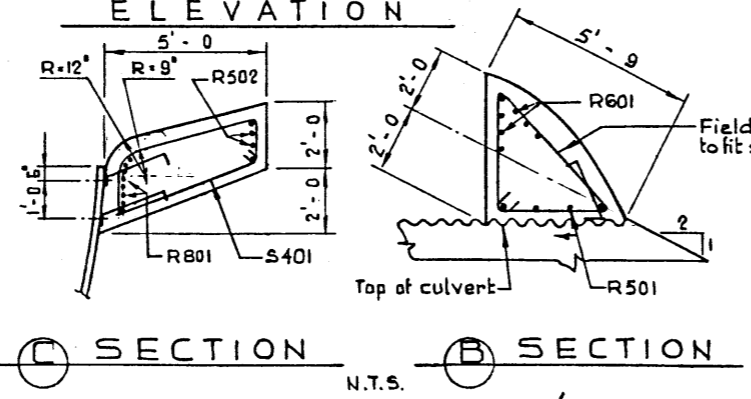
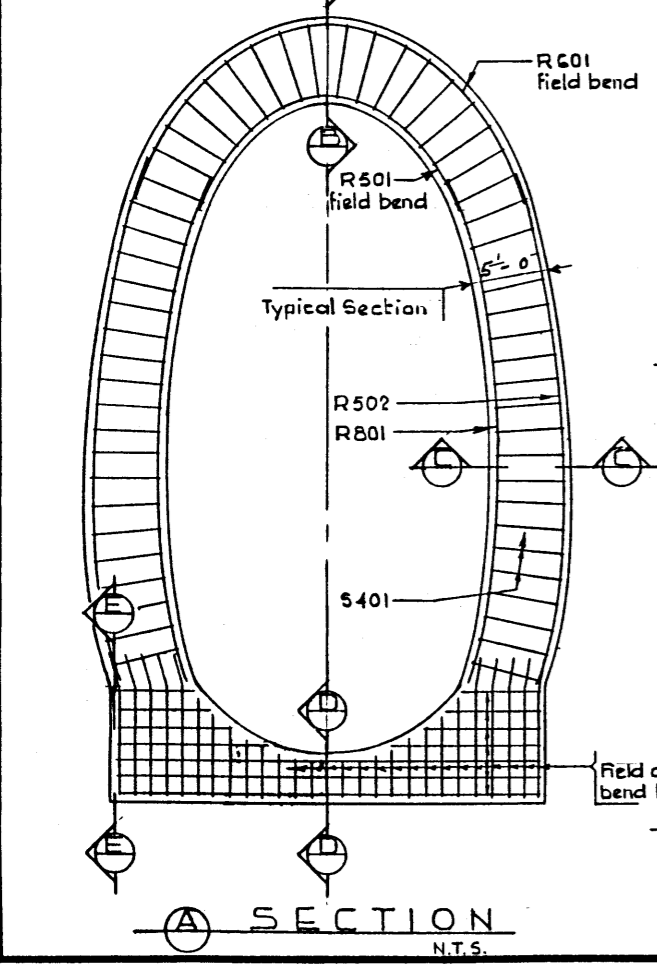
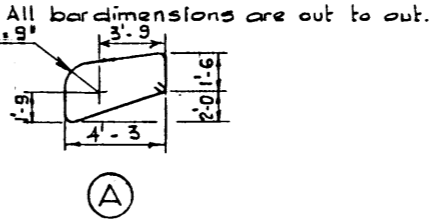
GENERAL NOTES:

- All reinforcing bars to have 3" clear cover.
- All surfaces of rock rip-rap that will come into contact with concrete must be cleaned to ensure bond.
- The concrete used to fill voids in between rip-rap shall conform to the requirements of Class A concrete. Field drill 1/2" holes in S.P.C.M.P. to receive anchor bolts. (Do not burn.) Due to possible changes in bench marks, errors, etc. the proposed elevations must be field checked to ensure that the culvert is approx. D/4 below streambed.
- The concrete used for the shoulder and sloped slabs shall conform to the requirements of Class A concrete.
- Please return this Dwg. with the authorization when the structure is completed, showing actual "as installed" invert elevations and the "as constructed" dimensions.
- Work this Dwg. with Dwg. and Spec. B.269/67. "Installation of Large Metal Pipe."
- Rock treatment and bank details on outlet to be revised as necessary for each site.

BAR LIST

MARK	SIZE	NO.	TYPE	LENGTH	WEIGHT
R 501	5		str.		
R 502	5		str.		
R 601	6		str.		
R 801	8		str.		
S 401	4		A		
W 501	5		str.		

BAR TYPES (N.T.S.)



PROVINCE OF ALBERTA
DEPARTMENT OF HIGHWAYS AND TRANSPORT
BRIDGE BRANCH

GENERAL LAYOUT AND END TREATMENT

APPROVED
CHIEF BRIDGE ENGINEER
DATE

DESIGNED BY: E.W.M. DRAWN BY: P. SZÖTS DATE: NOV. 1971 CHECKED BY: DATE: STREAM: LOCATION: HWY. NO.: SCALE: FILE NO.: SHEET: 5-1057